WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
MONTANA

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE,
and
MONTANA AGRICULTURAL EXPERIMENT STATION

Data included in this report were obtained by the agencies named above in cooperation with Federal, State, and private organizations listed on the inside back cover of this report.

AS OF
MAY 1, 1966

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season as they affect runoff will add to be an effective average. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

Listed below are water supply outlook reports based on Federal-State-Private Cooperative snow surveys. Those published by the Soil Conservation Service may be obtained from Soil Conservation Service, Room 507, Federal Building, 701 N. W. Glisan, Portland, Oregon 97209.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
WESTERN UNITED STATES	MONTHLY (FEB.-MAY)	PORTLAND, OREGON	ALL COOPERATORS
BASIC DATA SUMMARY	OCTOBER 1	PORTLAND, OREGON	ALL COOPERATORS
STATES			
ALASKA	MONTHLY (MAR.-MAY)	PALMER, ALASKA	ALASKA S.C.D.
ARIZONA	SEMI-MONTHLY (JAN.15 - APR.1)	PHOENIX, ARIZONA	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
COLORADO AND NEW MEXICO	MONTHLY (FEB.-MAY)	FORT COLLINS, COLORADO	COLO. STATE UNIVERSITY COLO. STATE ENGINEER N. MEX. STATE ENGINEER
IDAHO	MONTHLY (JAN.-JUNE)	BOISE, IDAHO	IDAHO STATE RECLAMATION ENGINEER
MONTANA	MONTHLY (JAN.-JUNE)	BOZEMAN, MONTANA	MONT. AGR. EXP. STATION
NEVADA	MONTHLY (JAN.-MAY)	RENO, NEVADA	NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES - DIVISION OF WATER RESOURCES
OREGON	MONTHLY (JAN.-JUNE)	PORTLAND, OREGON	OREG. STATE UNIVERSITY OREGON STATE ENGINEER
UTAH	MONTHLY (JAN.-JUNE)	SALT LAKE CITY, UTAH	UTAH STATE ENGINEER
WASHINGTON	MONTHLY (FEB.-JUNE)	SPOKANE, WASHINGTON	WN. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEB.-JUNE)	CASPER, WYOMING	WYOMING STATE ENGINEER

PUBLISHED BY OTHER AGENCIES

REPORTS	ISSUED	AGENCY
BRITISH COLUMBIA	MONTHLY (FEB.-JUNE)	WATER RESOURCES SERVICE, DEPT. OF LANDS, FOREST AND WATER RESOURCES, PARLIAMENT BLDG., VICTORIA, B.C., CANADA
CALIFORNIA	MONTHLY (FEB.-MAY)	CALIF. DEPT. OF WATER RESOURCES, P.O. BOX 388, SACRAMENTO, CALIF.

WATER SUPPLY OUTLOOK

FEDERAL-STATE-PRIVATE COOPERATIVE SNOW SURVEYS

for

MONTANA

Report Prepared

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MONTANA
WATER SUPPLY OUTLOOK
as of
May 1, 1966

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* * * * * * * * * * * * * * * * * * * * * * *
*                                           *
* Near average streamflow for April and     *
* above average mountain precipitation      *
* improved the outlook for late season      *
* irrigation supplies in some areas.        *
* Some melt occurred during April but most  *
* high elevation snow courses registered    *
* above average increases since April 1.    *
*                                           *
* Alternating warm and cool periods have    *
* ripened the snow pack and reduced the     *
* low elevation snow pack, but the warm     *
* periods have not been long enough to      *
* generate large amounts of snowmelt.       *
*                                           *
* * * * * * * * * * * * * * * * * * * * * * *
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Snow surveys made near the first of May vary from 30 to 70 percent of last year and are generally 65 to 90 percent average.

Headwaters of the Jefferson and Madison have about 65 percent average snow cover. Heavy snows in the Gallatin drainage during April helped to bring the snow pack up to 85 percent average and improve the outlook for late season supplies.

Along the main stem of the Missouri, snow pack is about 70 percent average along the Continental Divide and near average in the Castle, Big and Little Belt mountains on drainages to the east.

MONTANA
WATER SUPPLY OUTLOOK
as of
May 1, 1964

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* * * * * * * * * * * * * * * * * * * * * * *
*                                           *
*  Near average accumulation for April and  *
*  above average mountain precipitation     *
*  improved the outlook for late season     *
*  irrigation supplies in some areas.       *
*  Some melt occurred during April, but most *
*  high elevation snow courses registered   *
*  above average increases since April 1.   *
*                                           *
*  Alternating warm and cool periods have   *
*  flattened the snow pack and reduced the  *
*  low elevation snow pack, but the warm    *
*  periods have not been long enough to     *
*  generate large amounts of snowmelt.      *
*                                           *
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Snow surveys made near the first of May vary from 90 to 70 percent of last year and are generally 65 to 95 percent average.

Headwaters of the Jefferson and Madison have about 65 percent average snow cover. Heavy snows in the Bitterroot drainage during April helped to bring the snow pack up to 85 percent average and improve the outlook for late season supplies.

Along the main stem of the Missouri, snow pack is about 70 percent average along the Continental Divide and near average in the Castle, Big and Little Belt mountains on drainages to the east.

Snow pack on the Yellowstone headwaters is about 80 percent average. Near average snow cover exists in the Crazy mountains and the east end of the Beartooth-Absaroka range.

West of the Divide, the Upper Clark Fork and Bitterroot remain about 65 percent average. Drainages downstream from Missoula on the Clark Fork and the Flathead river drainage have snow cover in their headwaters close to 80 percent average.

Streamflow for the next five months is forecast 70 to 90 percent for tributaries to the Missouri and 80 to 95 percent for streams in the upper Yellowstone drainage. The Big Horn river is still expected to produce only about one-half average flow.

Streamflow on tributaries to the Clark Fork above the Blackfoot and the Bitterroot will be 65 to 75 percent average. A little higher percentages are expected downstream on the Clark Fork and Flathead tributaries. The Kootenai and tributaries remain at about 90 percent average.

Shortages of late season irrigation supplies can be expected on small tributaries not having reservoir storage on the upper Missouri, upper Clark Fork and Bitterroot drainages.

Soils at low elevations are drying, while those at median elevations are saturated. High elevation soils are nearing saturation as melt progresses.

Reservoir storage is generally above average and spring runoff should be adequate for most to fill.

Snow pack on the Yellowstone headwaters is about 70 percent average. Most average snow cover exists in the Crazy mountains and the east end of the Beartooth-Absaroka range.

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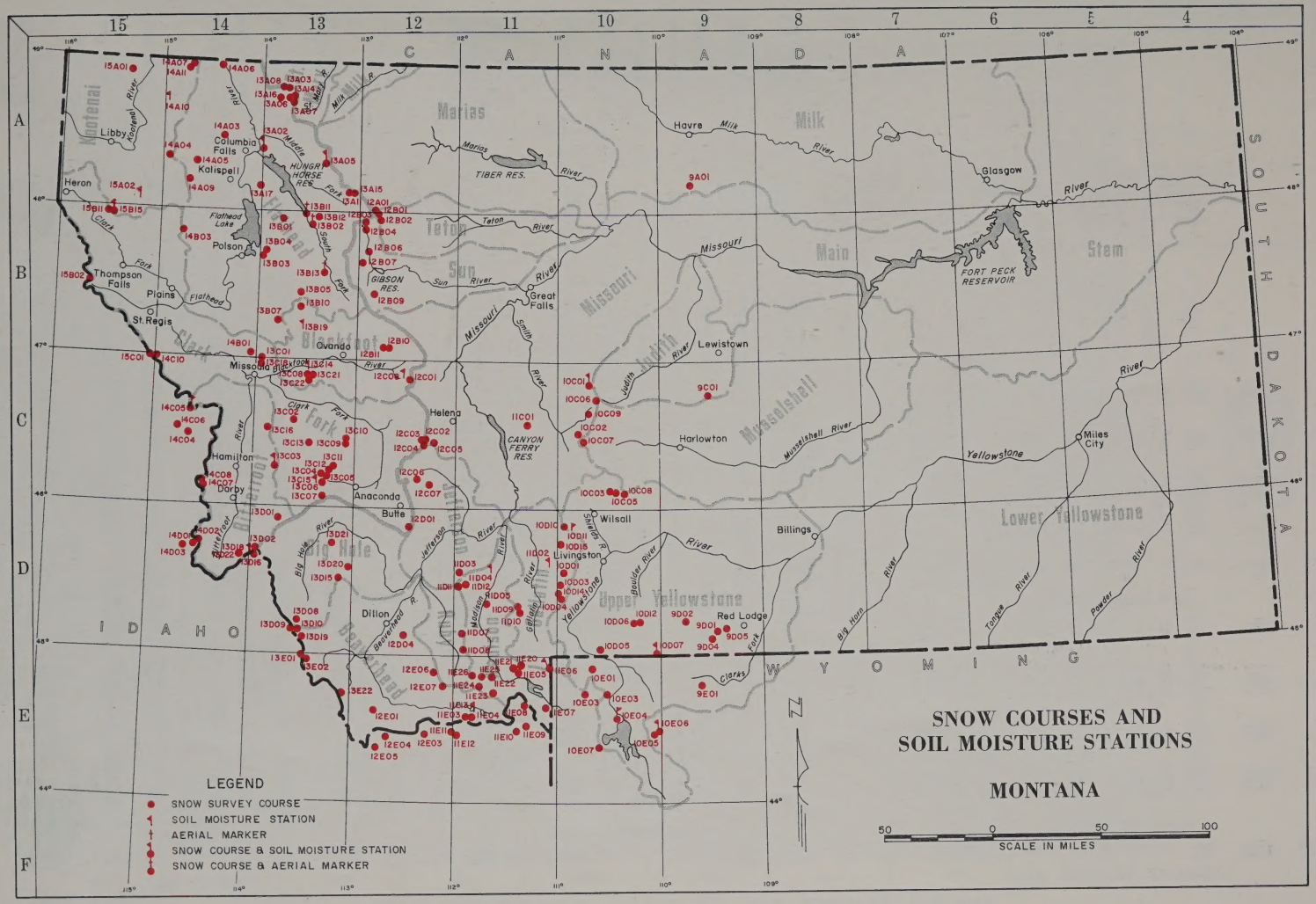
Shortages of late season irrigation supplies can be expected on small tributaries not having reservoir storage on the upper Missouri, upper Clark Fork and Bitterroot drainages.

Soils at low elevations are drying, while those at medium elevations are saturated. High elevation soils are nearing saturation as melt progresses.

Reservoir storage is generally above average and spring runoff should be adequate for most to fill.


SNOW COURSES AND
SOIL MOISTURE STATIONS
MONTANA
LEGEND
SNOW SURVEY COURSE
SOIL MOISTURE STATION
AERIAL MARKER
SNOW COURSE & SOIL MOISTURE STATION
SNOW COURSE & AERIAL MARKER
SCALE IN MILES
50 0 50 100
CANADA
SOUTH DAKOTA
IDAHO
WYOMING
Libby
Columbia Falls
Kalispell
Heron
Polson
Thompson Falls
Plains
St. Regis
Missoula
Hamilton
Darby
Anaconda
Butte
Helena
Ovando
Great Falls
Havre
Glasgow
Lewistown
Harlowton
Wilsall
Livingston
Dillon
Red Lodge
Billings
Miles City
TIBER RES.
GIBSON RES.
CANYON FERRY RES.
FORT PECK RESERVOIR
Flathead Lake
Marias
Milk
Teton
Sun
Missouri
Main Stem
Musselshell
Judith
Yellowstone
Lower Yellowstone
Upper Yellowstone
Big Hole
Beaverhead
Madison
Gallatin
Boulder
Big Horn
Tongue
Powder
Clarks Fork
Flathead
Kootenai
Bitterroot
Blackfoot
Jefferson
Stillwater
Shields
Yellowstone
Clarks Fork
Middle Fork
South Fork
Fort
Milk
Marias
Teton
Sun
Smith
Musselshell
Big Hole
Beaverhead
Madison
Gallatin
Boulder
Big Horn
Tongue
Powder
Clarks
Fort

INDEX to MONTANA SNOW COURSES and SOIL MOISTURE STATIONS

SNOW COURSES

COLUMBIA RIVER BASIN

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
KOOTENAI RIVER								
Baree Creek	15B11	5500	36	26N	31W	1956	3,4,5,5½	2
Baree Trail	15B15	3800	5	25N	30W	1965	3,4,5,5½	2
Brush Creek	14A04	5000	12	30N	26W	1937	3,4,5	1,2
Graves Creek	14A11	4300	1	36N	29W	1965	3,4,5,5½,6	1,2
Red Mountain	15A01	6000	4	36N	29W	1937	3,4,5,5½,6	1,2
Weasel Divide	14A07	5450	20	37N	24W	1937	3,4,5,5½,6	1,2
FLATHEAD RIVER								
Bassoo Peak	14B03	5150	11	24N	25W	1961	3,4,5	1,5
Beaver Lake	13A11	5900	31	28N	11W	1964	3,4,5	1
Big Creek	13B03	6750	7	22N	18W	1941	3,4,5, 6	1,5
Camp Misery	13A17	6400	30	28N	18W	1962	3,4,5	1,2
Desert Mountain	13A02	5600	24	31N	19W	1937	1,2,3,4,5, 6	1,2
Fatty Creek	13B04	5500	8	22N	18W	1962	3,4,5, 6	1,5
Griffin Creek Divide	14A09	5150	11	28N	25W	1960	3,4,5	1,5
Gunsight Lake	13B12	6300	35	26N	14W	1964	3,4,5	1
Hell Roaring Divide	14A03	5770	35	32N	22W	1942	1,2,3,4,5,5½,6	2
Holbrook	13B13	4530	18	21N	13W	1951	1,2,3,4,5	1
Kishenehn	14A06	3890	14	37N	22W	1954	3,4	6
Logan Creek	14A05	4300	34	30N	24W	1937	3,4,5	1,2
Marias Pass	13A05	5250	34	30N	14W	1934	1,2,3,4,5	3
Mineral Creek	13A16	4000	29	35N	17W	1957	3,4,5	6
North Fork Jocko	13B07	6330	3	17N	17W	1941	3,4,5,5½,6	1,5
Spotted Bear Mountain	13B02	7000	23	25N	15W	1948	1,2,3,4,5	1,2
Trinkus Lake	13B01	6100	9	25N	17W	1948	3,4,5	1
Twin Creeks	13B11	3580	24	26N	16W	1951	1,2,3,4,5	1,2
Upper Holland Lake	13B05	7000	28	20N	15W	1948	3,4,5	1
CLARK FORK RIVER								
Black Pine	13C13	7100	26	8N	15W	1959	3,4,5,5½,6	1,2
Copper Creek	12B10	5700	1	15N	9W	1962	3,4,5	1,2
Cotter Mine	12B11	6250	2	15N	9W	1962	3,4,5	1,2
Coyote Hill	13B10	4200	12	18N	16W	1947	1,2,3,4,5	1,2
El Dorado Mine	13C09	7800	23	8N	12W	1949	3,4	1
Fred Burr Pass	13C11	8000	12	6N	13W	1957	3,4,5	1
Gold Creek Lake	13C10	7200	14	8N	12W	1949	3,4	1
Heart Lake Trail	14C10	4800	11	14N	27W	1965	3,4,5	1,2
Hoodoo Creek	15C01	5900	16	14N	27W	1937	3,4,5	1,2
Intergaard	13C04	6450	6	5N	13W	1936	2,3,4,5	4
Lubrecht Forest No. 3	13C21	5450	19	13N	14W	1951	1,2,3,4,5	8
Lubrecht Forest No. 4	13C22	4650	23	13N	15W	1951	1,2,3,4,5	8
Lubrecht Forest No. 6	13C08	4040	11	13N	15W	1951	1,2,3,4,5	8
Red Lion	13C12	7100	22	6N	13W	1958	3,4,5	1
Skalkaho Summit	13C03	7260	30	6N	17W	1937	3,4,5,5½,6	1
Slide Rock Mountain	13C02	7100	35	10N	16W	1937	3,4,5	1
Southern Cross	13C05	6500	8	5N	13W	1936	2,3,4	4
Spring Gulch	13C18	6000	12	14N	19W	1961	1,2,3,4,5	8
Storm Lake	13C07	7780	19	4N	13W	1939	1,2,3,4,5	1
Stuart Mill	13C06	6500	19	5N	13W	1936	2,3,4	4
Stuart Mountain	13C01	7400	6	14N	18W	1936	1,2,3,4,5,5½,6	8
TV Mountain	14B01	6800	33	15N	19W	1956	1,2,3,4,5,5½,6	8
BITTERROOT RIVER								
Ambrose	13C16	6480	28	9N	18W	1960	3,4,5	1
East Fork R. S.	13D01	5400	16	2N	17W	1937	3,4	1
Gibbons Pass	13D02	7100	4	2S	19W	1934	1,2,3,4,5,5½,6	1,3
Lost Horse	14C07	5940	5	4N	23W	1960	3,4,5,5½,6	1
Nez Perce Camp	14D02	5680	19	1S	23W	1937	3,4,5	1
Nez Perce Pass	14D01	6570	25	1S	24W	1937	3,4,5	1
Saddle Mountain	13D22	7940	5	2S	19W	1965	3,4,5,5½,6	1
Twin Lakes	14C08	6510	32	5N	23W	1960	3,4,5,5½,6	1
ST. MARY RIVER BASIN								
Iceberg Lake No. 3	13A03	5600	1	35N	17W	1922	5	3,9
Josephine Lower No. 9	13A14	4900	22	35N	16W	1955	5	3,9
Mount Allen No. 7	13A07	5700	27	35N	16W	1922	5	3,9
Piegan Pass No. 6	13A06	5500	27	35N	16W	1922	5	3,9
Ptarmigan No. 8	13A08	5800	36	36N	17W	1937	5	3,9

MISSOURI RIVER BASIN

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
BEAVERHEAD RIVER								
Bloody Dick	12D10	7600	12	8S	16W	1948	3,4,5	1
Carter Creek	12D04	7400	22	8S	7W	1963	2,3,4	1
Red Creek Lake	12E22	8400	24	12S	13W	1965	3,4,5	1
Elkhorn Springs	13D15	7800	21	4S	12W	1935	3,4,5	3
Gold Stone	13D09	8100	11	8S	16W	1948	3,4,5	1
Lakeview Canyon	11E04	6930	26	14S	2W	1948	3,4,5	10
Lakeview Ridge	11E03	7400	27	14S	2W	1948	3,4,5	10
Lemhi Pass	12E01	7480	9	10S	15W	1948	3,4	1
Trail Creek	12E02	7090	15	10S	15W	1948	3,4	1
White Pine Ridge	12E01	8850	18	14S	9W	1948	3,4,5	1

MISSOURI RIVER BASIN (continued)

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
RUBY RIVER								
Clover Meadow	11D08	8600	28	9S	2W	1963	3,4,5	1
Divide	12E07	7900	14	12S	4W	1963	3,4,5	1
Notch	12E06	8500	18	11S	4W	1963	3,4,5	1
BIG HOLE RIVER								
Abundance Lake	13D20	8800	7	3S	11W	1963	3,4,5	1
Darkhorse Lake	13D19	8600	4	8S	16W	1963	3,4,5	1
Foolhen	13D21	8280	11	1S	13W	1963	3,4,5	1
Jahnke Creek	13D08	7340	25	7S	16W	1948	3,4,5	1
JEFFERSON RIVER								
Berry Meadow	12C07	7300	8	5N	5W	1962	3,4,5	1
Picnic Grounds	12C06	6500	10	5N	6W	1941	2,3,4	4
Pipestone Pass	12D01	7200	10	1N	7W	1938	1,2,3,4,5	1
MADISON RIVER								
Call Road	11D07	8050	21	8S	2W	1962	3,4,5	1
Four Mile	11D12	6900	6	4S	2W	1965	3,4,5	1
Freezeout Lake	11E25	7200	6	12S	1E	1965	3,4,5,5½,6	2
Freezeout Mountain	11E26	8250	26	11S	1W	1965	3,4,5,5½,6	2
Hebgen Dam	11E05	6550	22	11S	3E	1934	1,2,3,4,5	3
Jack Creek	11D05	7500	13	6S	1E	1961	3,4	1
Lake Creek	11E22	6100	27	11S	1E	1965	3,4,5,5½,6	2
Lower Twin	11D11	7900	12	4S	3W	1965	3,4,5	1
Meridian Creek	11E23	7000	31	12S	1E	1965	3,4,5,5½,6	2
North Meadow	11D03	7500	24	3S	3W	1961	3,4,5	1
Potomageton Park	11E21	7150	33	10S	3E	1965	3,4,5	2
Sentinel Creek	11E20	8300	17	10S	3E	1965	3,4,5	2
Teepee Creek	11E24	8000	15	12S	1W	1965	3,4,5,5½,6	2
West Yellowstone	11E07	6700	34	13S	5E	1934	1,2,3,4,5	3
GALLATIN RIVER								
Arch Falls	10D14	7350	3	5S	6E	1963	2,3,4,5,5½,6	1
Bear Basin	11D09	8150	9	6S	3E	1963	3,4,5	1
Bridger Bowl	10D15	7250	25	1N	6E	1965	1,2,3,4,5½,6	1
Devil's Slide	10D04	8100	14	5S	6E	1935	2,3,4,5,5½,6	1
Hood Meadow	10D03	6600	22	4S	6E	1935	2,3,4,5,5½,6	1
Little Park	11D10	7400	22	6S	3E	1963	3,4,5	1
New World	10D01	6700	24	3S	6E	1939	2,3,4	1
Twenty-One Mile	11E06	7150	1	11S	5E	1934	1,2,3,4,5	3
MISSOURI RIVER MAIN STEM								
Boulder Mountain	11C01	7950	1	9N	3E	1963	3,4,5	1
Chessman Reservoir	12C05	6200	2	8N	5W	1936	1,2,3,4,5	3
Deadman Creek	10C09	6450	23	12N	8E	1966	3,4,5,5½,6	1
Elk Peak	10C07	8000	10	8N	8E	1963	3,4,5	1
Grasshopper	10C02	7000	19	9N	8E	1938	3,4,5	1
Kings Hill	10C01	7500	34	13N	8E	1934	3,4,5,5½,6	1,3
Rocky Boy	9A01	5200	15	28N	16E	1941	3,4	7
Steaple Pass	12C01	6600	16	13N	7W	1934	3,4,5	3
Ten Mile Lower	12C02	6600	12	8N	6W	1935	1,2,3,4,5	3
Ten Mile Middle	12C03	6800	13	8N	6W	1934	1,2,3,4,5	3
Ten Mile Upper	12C04	8000	19	8N	5W	1935	1,2,3,4,5	3
SUN-TETON-MARIAS RIVERS								
Badger Pass	13A15	6900	4	27N	11W	1964	3,4,5	1
Cabin Creek	12B06	5200	33	23N	10W	1949	3,4,5	1
Five-Ball	12B09	5700	25	20N	10W	1948	3,4,5	1
Freight Creek	12A01	6000	13	26N	10W	1948	3,4,5	1
Goat Mountain	12B07	7000	20	22N	10W	1934	3,4,5	3
Waldron Creek	12B02	5300	16	25N	9W	1948	3,4,5	1
West Fork	12B01	6000	6	25N	9W	1948	3,4,5	1
Wrong Creek	12B04	5700	32	25N	10W	1949	3,4,5	1
Wrong Ridge	12B03	6800	17	25N	10W	1949	3,4,5	1
JUDITH RIVER								
Crystal Lake	9C01	6100	19	12N	18E	1941	3,4	1
Spur Park	10C06	8000	20	12N	9E	1963	3,4,5,5½,6	1
UPPER YELLOWSTONE RIVER								
Bald Ridge	10C05	7500	11	4N	10E	1961	3,4,5	1
Camp Senia	9D01	7890	2	8S	18E	1937	3,4,5,5½,6	1
Crevice Mountain	10D05	8400	22	9S	9E	1935	3,4	2
Grizzly Peak	9D05	8400	26	7S	19E	1961	1,2,3,4,5	1
Independence	10D06	8000	22	7S	12E	1940	3,4,5	1
Monument Peak	10D12	9000	22	7S	12E	1961	3,4,5	1
Northeast Entrance	10D07	7400	33	9S	14E	1937	1,2,3,4,5	6
Porcupine R. S.	10C03	6500	10	4N	10E	1938	3,4,5	1
Sacajawea	10D10	6550	36	2N	6E	1960	3,4,5	1
South Fork Shields	10C08	8100	13	4N	10E	1965	3,4,5	1
Timberline Creek	9D04	8850	10	8S	18E	1961	3,4,5	1
West Rosebud	9D02	7500	9	7S	16E	1960	3,4	4

SOIL MOISTURE STATIONS

COLUMBIA RIVER BASIN

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
KOOTENAI RIVER								
Baree Trail	15B15M	3800	5	25N	30W	1964	Monthly	2
Murphy Lake R. S.	14A10M	3000	5	34N	25W	1964	Monthly	2
Raven R. S.	15A02M	3050	2	26N	29W	1964	Monthly	2
FLATHEAD RIVER								
Desert Mountain	13A02M	5600	24	31N	19W	1956	Monthly	1
Marias Pass	13A05M	5250	34	30N	14W	1950	Monthly	1
CLARK FORK RIVER								
Georgetown Lake	13C15M	6450	6	5N	13W	1962	Monthly	1
Lubrecht Forest	13C14M	4100	11	13N	15W	1961	Monthly	8
Seeley Lake	13B19M	4030	21	17N	15W	1963	Monthly	2
Skalkaho Summit	13C03M	7260	30	6N	17W	1964	Monthly	1
BITTERROOT RIVER								
Gibbons Pass	13D18M	7100	4	2S	19W	1962	Monthly	1
Lolo Pass	14C05M	5250	11	10N	24W	1963	Monthly	1

MISSOURI RIVER BASIN

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
BEAVERHEAD RIVER								
Lakeview	11E13M	6700	23	14S	2W	1962	Monthly	10
MADISON RIVER								
Red Bluff	11D04M	4800	7	3S	1E	1961	Monthly	7
GALLATIN RIVER								
Bridger Bowl	10D15M	7250	25	1N	6E	1965	Monthly	1
College Site	11D02M	4856	18	2S	5E	1956	Monthly	1
Twenty-One Mile	11E06M	7150	1	11S	5E	1963	Monthly	6
MISSOURI RIVER MAIN STEM								
Kings Hill	10C01M	7420	34	13N	8E	1963	Monthly	1
Steaple Pass	12C08M	6350	16	13N	7W	1963	Monthly	1
YELLOWSTONE RIVER								
Battle Ridge	10D11M	6020	32	2N	7E	1960	Monthly	1
Northeast Entrance	10D07M	7350	33	9S	14E	1962	Monthly	6

LEGEND

1/ Numerals 1,2,3,4,5,5½,6 refer to January 1, February 1, March 1, April 1, May 1, May 15 and June 1.

2/ Numerals refer to Agency that secures the snow survey as follows:

1. U. S. Soil Conservation Service
2. U. S. Forest Service
3. U. S. Geological Survey
4. Montana Power Company
5. U. S. Indian Service
6. U. S. National Park Service
7. MSU Agricultural Experiment Station
8. U. of M. School of Forestry
9. Dominion Water & Power Bureau
10. U. S. Bureau of Sport Fisheries & Wildlife

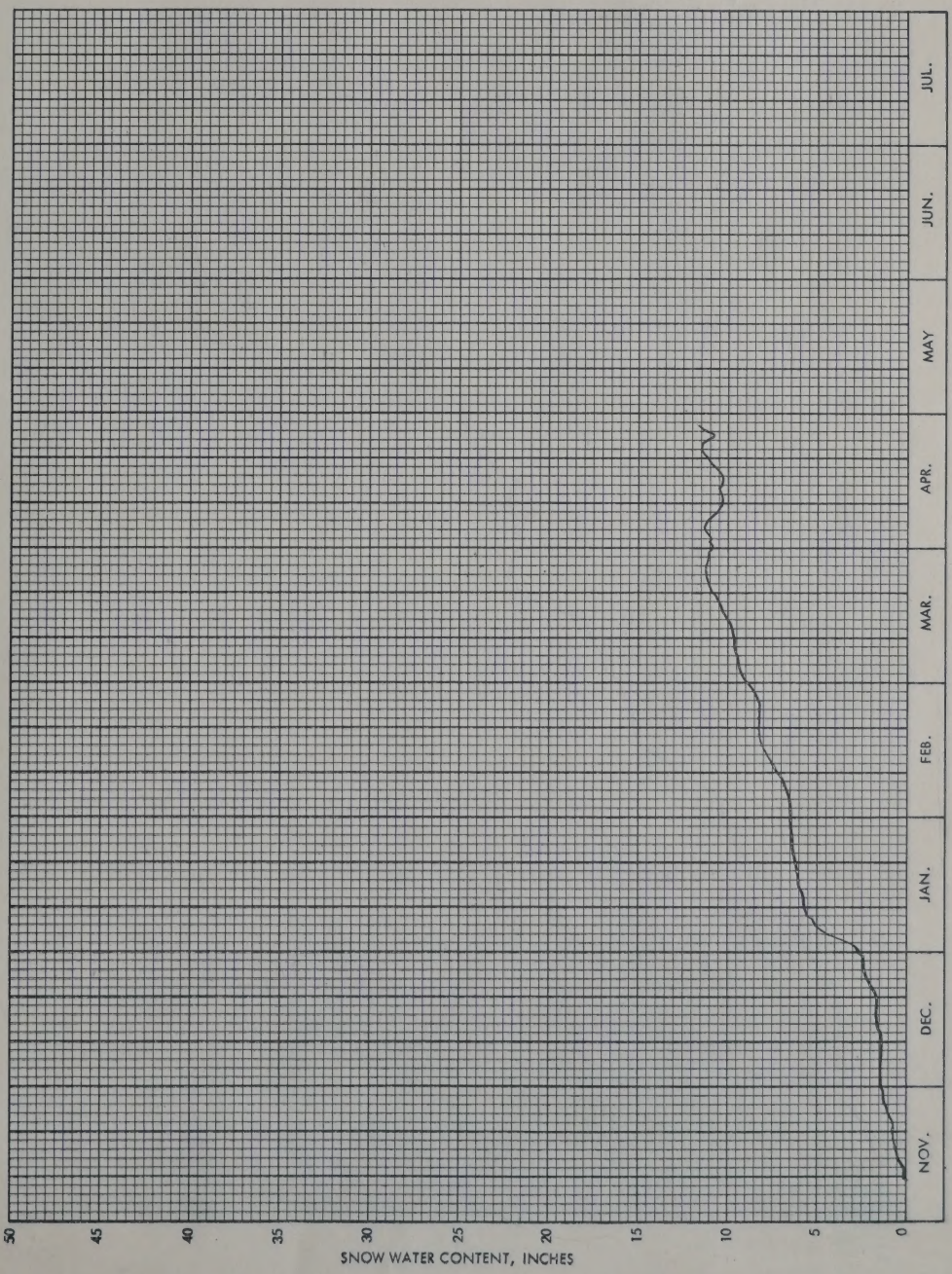
M - Soil Moisture

BLACK PINE
SNOW PILLOW DATA

AS OF May 1, 1966

Sec. 26 T. 8N R. 15W No. 13C13 Drainage: Columbia

Lat. 46-25 Long. 113-26 Elev. 7100 Clark Fork

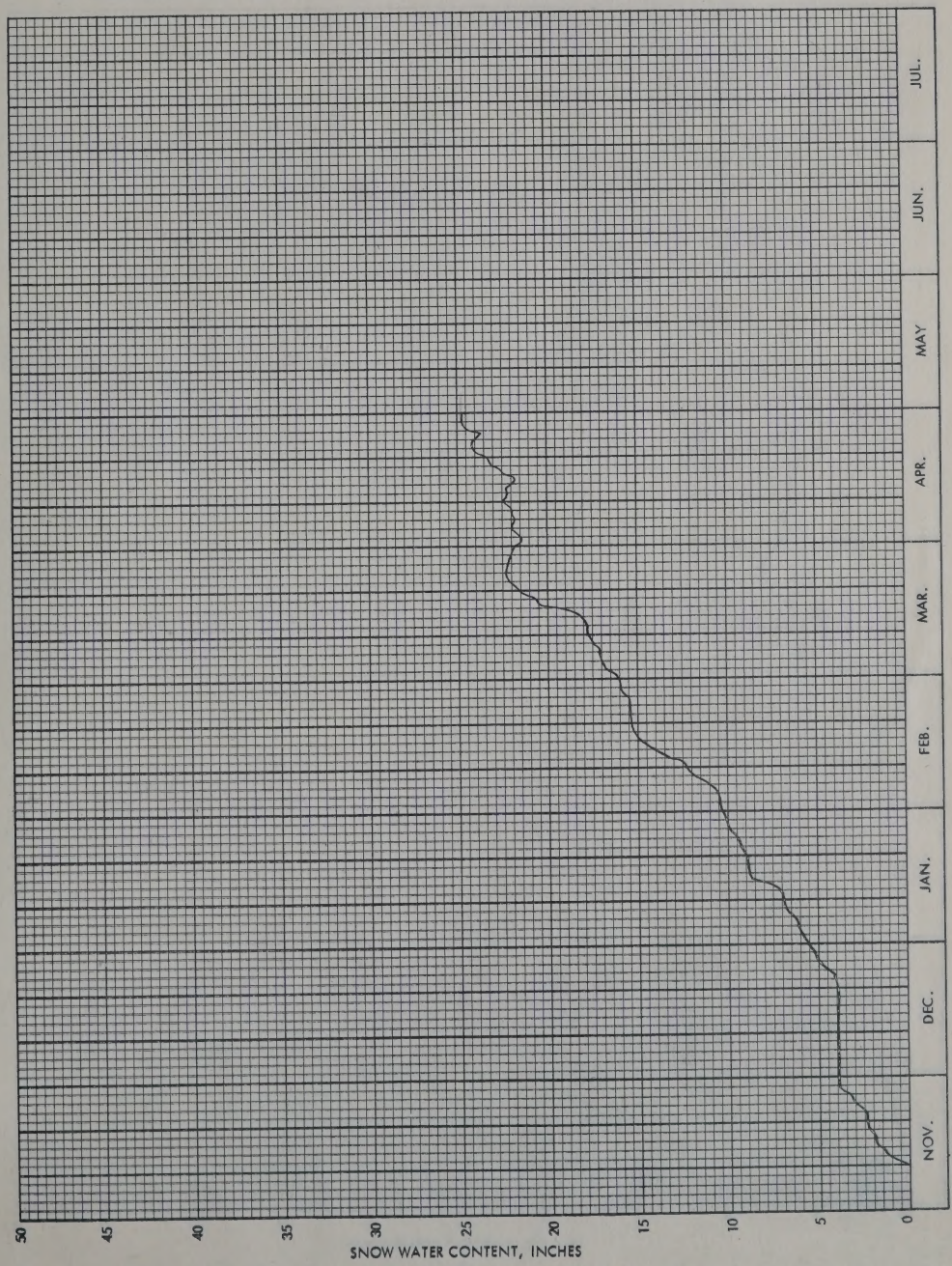


BRIDGER BOWL
SNOW PILLOW DATA

AS OF May 1, 1966

Sec. 25 T. 1N R. 6E No. 10D15 Drainage: Missouri

Lat. 45-48 Long. 110-55 Elev. 7250 Gallatin



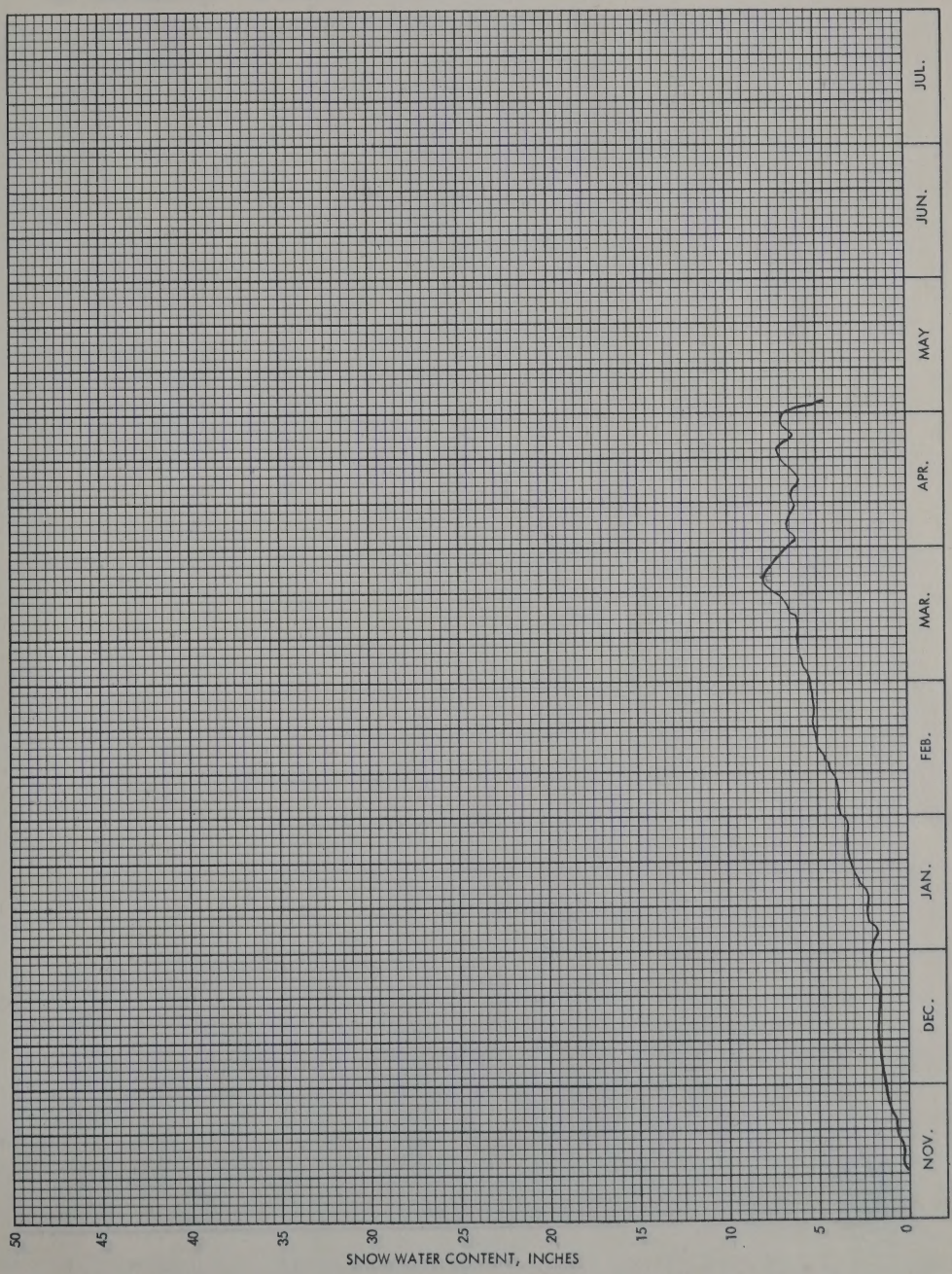
LICK CREEK

SNOW PILLOW DATA

AS OF May 1, 1966

Sec. 10 T. 4S R. 6E No. 10D13 Drainage: Missouri

Lat. 45-30 Long. 110-58 Elev. 6860 Gallatin

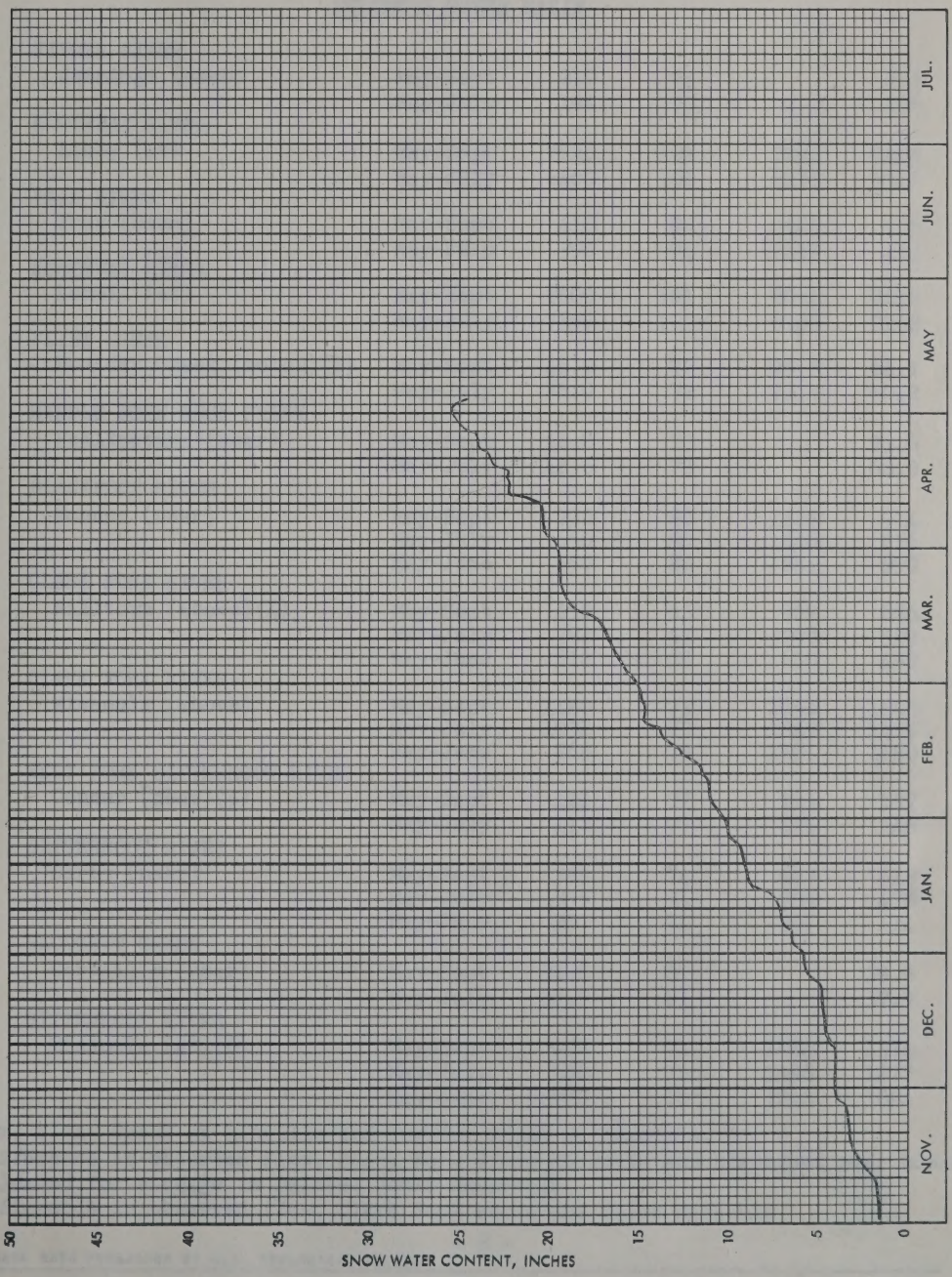


SHOWER FALLS
SNOW PILLOW DATA

AS OF May 1, 1966

Sec. 14 T. 5S R. 6E No. 10D16 Drainage: Missouri

Lat. 45-24 Long. 110-57 Elev. 8100 Gallatin



WATER SUPPLY FORECASTS

AS OF MAY 1, 1966

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	COLUMBIA RIVER BASIN					
	FISHER RIVER					
3020	Jennings (near)	May-Sept	210	94		223
		May-July	194	94		206
	KOOTENAI RIVER					
3030	Libby (at)	May-Sept	7520	101	7284	7428
		May-July	6400	101	6138	6342
	YAAK RIVER					
3045	Troy (near)	May-Sept	410	94	448	435
		May-July	390	94	419	413
	KOOTENAI RIVER					
3050	Leonia (at)	May-Sept	8500	101	8094	8416
		May-July	7350	101	6900	7268
	FLINT CREEK					
3301	Boulder Creek (below)(3)	May-Sept	46.0	72	95.8	64.1
		May-July	36.0	72	73.2	50.2
	MIDDLE FORK ROCK CREEK					
3320	Philipsburg (near)	May-Sept	54.0	73		73.6
		May-July	48.6	73		66.3
	BLACKFOOT RIVER					
3400	Bonner (near)	May-Sept	730	80	1181	914
		May-July	650	80	1046	816
		May-June	550	80	881	690
	CLARK FORK RIVER					
3404	Milltown (above)(4)	May-Sept	450	65	969	686
		May-July	382	65	797	589
		May-June	318	65	650	490
	CLARK FORK RIVER					
3405	Missoula (above)	May-Sept	1180	73	2150	1600
		May-July	1032	73	1843	1405
		May-June	868	73	1531	1180
	WEST FORK BITTERROOT RIVER					
3425	Conner (near)(5)	May-Sept	121	77	195	157
		May-July	112	77	176	146
	BITTERROOT RIVER					
3440	Darby (near)	May-Sept	385	74	647	518
		May-July	355	74	584	478
		May-June	307	74	501	414
	BLODGETT CREEK					
3475	Corvallis (near)	May-Sept	32.5	81		39.9
		May-July	30.7	81		37.9
	BITTERROOT RIVER					
3528	Missoula (at)(6)	May-Sept	980	71	1724	1384
		May-July	900	71	1496	1277
		May-June	770	71	1246	1084

(3) Sum, Flint Creek at Maxville and Boulder Creek at Maxville.
(4) Difference in observed flow, Clark Fork above Missoula and Blackfoot near Bonner.
(5) Adjusted for storage in Painted Rocks Reservoir.
(6) Difference in observed flow, Clark Fork above and below Missoula.

* PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY FORECASTS

AS OF MAY 1, 1964

No.	River and forecast point	Chance of exceeding	Forecast this year	Median	Median flow since Jan. 1*	Average
	COLUMBIA RIVER BASIN					
	FLATHEAD RIVER					
3010	Jocko (near)	May-June	210	91		217
		May-July	164	91		200
	KOOTENAI RIVER					
3030	Libby (at)	May-June	7530	101	7284	7418
		May-July	6400	107	6135	6472
	YAAK RIVER					
3045	Yaak (near)	May-June	410	84	488	485
		May-July	340	84	475	443
	KOOTENAI RIVER					
3050	Leonia (at)	May-June	8500	110	8004	8416
		May-July	6750	105	6812	7264
	FLATHEAD RIVER					
3301	Bonners Ferry (below)(3)	May-June	45.0	73	55.4	64.4
		May-July	36.0	74	73.3	50.2
	MIDDLE FORK BOISE RIVER					
3320	Pallisades (near)	May-June	44.0	74	77.6	
		May-July	63.0	73	85.5	
	BLACKFOOT RIVER					
3400	Henry (near)	May-June	730	80	1181	914
		May-July	650	80	1060	814
		May-June	570	80	388	691
	CLEAR FORK RIVER					
3404	Milliron (above)(4)	May-June	430	65	659	646
		May-July	320	74	792	620
		May-June	320	65	480	490
	CLEAR FORK RIVER					
3405	Mirandola (above)	May-June	1180	71	2180	1600
		May-July	1032	73	1813	1409
		May-June	840	73	1270	1130
	WEST FORK BITTERROOT RIVER					
3435	Conner (near)(5)	May-June	430	70	598	647
		May-July	410	77	574	528
	BITTERROOT RIVER					
3440	Darby (near)	May-June	780	94	847	824
		May-July	765	76	881	878
		May-June	810	76	801	814
	BEAVERTOOTH CREEK					
3475	Overbaldo (near)	May-June	32.5	91		36.0
		May-July	30.0	91		37.5
	BITTERROOT RIVER					
3524	Missoula (at)(6)	May-June	980	71	1324	1384
		May-July	900	71	1160	1277
		May-June	770	71	1144	1064

(3) Est. Flow at Bonners Ferry and Kootenai Creek at Hawkins.
(4) Differences in observed flow, Clark Fork above Missoula and Rock Creek near Clinton.
(5) Adjusted for storage in Painted Rocks Reservoir.
(6) Differences in observed flow, Clark Fork above and below Missoula.

* Percentage date fourteen or more consecutive years.

WATER SUPPLY FORECASTS

AS OF MAY 1, 1966

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	CLARK FORK RIVER					
3530	Missoula (below)	May-Sept	2160	72	3874	2984
		May-July	1932	72	3339	2681
		May-June	1638	72	2777	2263
	CLARK FORK RIVER					
3545	St. Regis (at)	May-Sept	3000	74	5104	4036
		May-July	2700	74	4426	3624
		May-June	2280	74	3708	3066
	NORTH FORK FLATHEAD RIVER					
3555	Columbia Falls (near)	May-Sept	1650	90	2017	1833
		May-July	1480	90	1804	1650
		May-June	1230	90	1496	1371
	MIDDLE FORK FLATHEAD RIVER					
3585	West Glacier (near)	May-Sept	1510	87	1933	1736
		May-July	1380	87	1744	1598
		May-June	1160	87	1446	1334
	SOUTH FORK FLATHEAD RIVER					
3625	Columbia Falls (near)(7)	May-Sept	1840	87	2456	2103
		May-July	1730	87	2215	1985
		May-June	1490	87	1895	1710
	FLATHEAD RIVER					
3630	Columbia Falls (at)(7)	May-Sept	5100	88	6586	5820
		May-July	4730	88	5898	5351
		May-June	3960	88	4922	4507
	SWAN RIVER					
3700	Big Fork (near)	May-Sept	480	80	708	599
		May-July	418	80	584	520
		May-June	328	80	459	408
	FLATHEAD RIVER					
3720	Polson (near)(8)	May-Sept	6000	87	8067	6914
		May-July	5550	87	7183	6365
		May-June	4650	87	5993	5324
	CLARK FORK RIVER					
3890	Plains (near)(8)	May-Sept	9200	82	13546	11286
		May-July	8400	82	11885	10230
		May-June	7000	82	9932	8570
	THOMPSON RIVER					
3895	Thompson Falls (near)	May-Sept	200	80	242	249
		May-July	177	80	209	220
	PROSPECT CREEK					
3907	Thompson Falls (at)	May-Sept	95.0	75	113	127
		May-July	87.6	75	103	117
	CLARK FORK RIVER					
3920	Whitehorse Rapids (at)(9)	May-Sept	10350	82	14845	12580
		May-July	9350	82	12951	11369
		May-June	7800	82	10775	9499

(7) Adjusted for storage in Hungry Horse Reservoir.
(8) Adjusted for storage in Hungry Horse Reservoir and Flathead Lake.
(9) Adjusted for storage in Hungry Horse, Flathead Lake and Noxon Rapids Reservoirs.

*PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY FORECASTS

As of May 1, 1964

No.	River and forecasts point	Forecast period		Percent normal		Median streamflow (1000 acre feet)	
		Period	This year	Average	Last year*	This year	Average
	CLARK FORK RIVER						
3530	Missoula (below)	May-Sept	2160	72	2834	2984	
		May-July	1232	72	2329	2481	
		May-June	1038	72	2177	2263	
	CLARK FORK AT-TRIB						
3545	St. Regis (at)	May-Sept	3000	74	3704	4030	
		May-July	2740	74	4424	3624	
		May-June	2280	74	3703	3096	
	NORTH FORK FLATHEAD RIVER						
3555	Columbia Falls (near)	May-Sept	1690	90	2017	1873	
		May-July	1480	90	1804	1640	
		May-June	1230	90	1495	1371	
	MIDDLE FORK FLATHEAD RIVER						
3585	West Glacier (near)	May-Sept	1310	87	1523	1724	
		May-July	1180	87	1344	1358	
		May-June	1050	87	1446	1234	
	SOUTH FORK FLATHEAD RIVER						
3625	Columbia Falls (near)(7)	May-Sept	1240	87	2456	2103	
		May-July	1130	87	2215	1885	
		May-June	1050	87	1895	1370	
	FLATHEAD RIVER						
3630	Columbia Falls (at)(7)	May-Sept	3100	86	6546	5830	
		May-July	4730	88	5874	5351	
		May-June	3960	88	4822	4577	
	SWAN RIVER						
3700	Big Fork (near)	May-Sept	490	80	704	594	
		May-July	418	80	531	520	
		May-June	358	80	459	408	
	FLATHEAD RIVER						
3720	Polson (near)(8)	May-Sept	6000	80	8907	6914	
		May-July	4950	80	7183	6364	
		May-June	4050	80	5993	5324	
	CLARK FORK RIVER						
3740	Plains (near)(8)	May-Sept	4500	82	12414	11285	
		May-July	3400	82	11341	10320	
		May-June	2600	82	9932	8930	
	THOMPSON RIVER						
3895	Thompson Falls (near)	May-Sept	200	80	412	324	
		May-July	177	80	308	280	
	THOMPSON CREEK						
3907	Thompson Falls (at)	May-Sept	95.0	75	313	127	
		May-July	87.6	75	301	117	
	CLARK FORK RIVER						
3920	Whitehorse Rapids (at)(9)	May-Sept	10150	82	12845	12480	
		May-July	9350	82	12021	11490	
		May-June	7900	82	10715	9709	

(7) Adjusted for storage in Hungry Horse Reservoir.
(8) Adjusted for storage in Hungry Horse Reservoir and Flathead Lake.
(9) Adjusted for storage in Hungry Horse, Flathead Lake and Noxon Rapids Reservoirs.

*Adjusted data computed by U.S. Bureau of Water

WATER SUPPLY FORECASTS

AS OF MAY 1, 1966

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	MISSOURI RIVER BASIN					
	RED ROCK RIVER					
0110	Kennedy Ranch (at)	May-Sept	45.8	92	73.8	49.8
		May-July	40.7	92	61.6	44.3
	RED ROCK RIVER					
0125	Monida (near)(11)	May-Sept	49.0	89	97.8	54.9
		May-July	45.0	89	87.0	50.2
	BIG HOLE RIVER					
0255	Melrose (near)	May-Sept	500	80	1046	625
		May-July	460	80	934	576
	BOULDER RIVER					
0330	Boulder (near)	May-Sept	53.3	80	127	66.4
		May-July	50.7	80	115	63.2
	JEFFERSON RIVER					
0345	Sappington (at)(12)	May-Sept	632	77	1516	824
		May-July	556	77	1285	725
	MADISON RIVER					
0375	West Yellowstone (near)	May-Sept	169	94	239	179
		May-July	121	94	173	129
	MADISON RIVER					
0385	Grayling (near)(13)	May-Sept	335	92	520	364
		May-July	252	92	400	274
	MADISON RIVER					
0410	McAllister (near)(14)	May-Sept	544	87	914	623
		May-July	420	87	717	481
	GALLATIN RIVER					
0435	Gateway (near)	May-Sept	340	81	620	418
		May-July	287	81	523	353
	BRIDGER CREEK					
0485	Bozeman (near)	May-Sept	14.5	88	25.2	16.5
		May-July	13.4	88	22.8	15.3
	HYALITE CREEK					
0500	Bozeman (near)(15)	May-Sept	30.0	92	50.9	32.6
		May-July	25.6	92	43.4	27.8
	GALLATIN RIVER					
0525	Logan (at)	May-Sept	285	71	672	400
		May-July	235	71	552	330

(11) Adjusted for storage in Lima Reservoir.
(12) Adjusted for storage in Clark Canyon Reservoir.
(13) Adjusted for storage in Hebgen Lake.
(14) Adjusted for storage in Hebgen and Ennis Lakes.
(15) Adjusted for storage in Middle Creek Reservoir.

*PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY FORECASTS

AS OF MAY 1, 1965

(Data acre feet)

No.	River and forecast point	Forecast period	Forecast this year	Average	Percent of average	Maximum flow last year*	Minimum flow last year*
	MISSOURI RIVER BASIN						
	RED ROCK RIVER						
0110	Lamar-by Ranch (at)	May-Sept	45.5	92	73.8	49.4	
		May-July	40.7	92	61.6	44.3	
	RED ROCK RIVER						
0125	Monida (near)(11)	May-Sept	49.0	89	97.3	54.9	
		May-July	45.0	89	87.0	50.2	
	BIG HOLE RIVER						
0135	Melrose (near)	May-Sept	500	80	1042	593	
		May-July	400	80	934	576	
	BOULDER RIVER						
0230	Boulder (near)	May-Sept	53.3	80	127	66.6	
		May-July	50.7	80	115	63.2	
	JEFFERSON RIVER						
0245	Jefferson (at)(12)	May-Sept	632	70	1114	894	
		May-July	556	77	1257	745	
	MADISON RIVER						
0275	West Yellowstone (near)	May-Sept	109	84	234	170	
		May-July	121	84	173	159	
	MADISON RIVER						
0285	Gravelling (near)(13)	May-Sept	335	84	520	384	
		May-July	252	92	400	274	
	MADISON RIVER						
0310	Ennis-Lake (near)(14)	May-Sept	544	87	944	629	
		May-July	420	87	717	485	
	GALLATIN RIVER						
0325	Gateway (near)	May-Sept	340	81	420	416	
		May-July	287	81	353	353	
	SPANISH CREEK						
0345	Jackson (near)	May-Sept	14.5	88	24.2	24.4	
		May-July	13.4	88	22.8	16.7	
	HYALITE CREEK						
0370	Hyalite (near)(15)	May-Sept	30.0	72	50.9	32.4	
		May-July	25.6	92	43.4	27.8	
	GALLATIN RIVER						
0425	Logan (at)	May-Sept	285	71	472	400	
		May-July	236	71	398	370	

(11) Adjusted for storage in Lima Reservoir.
(12) Adjusted for storage in Clark Canyon Reservoir.
(13) Adjusted for storage in Hebgen Lake.
(14) Adjusted for storage in Hebgen and Ennis Lakes.
(15) Adjusted for storage in Middle Creek Reservoir.

*Maximum and minimum values of this statistical series.

Note: All amounts added in thousands (of acre feet).

WATER SUPPLY FORECASTS

AS OF MAY 1, 1966

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	MISSOURI RIVER					
0545	Toston (at)(16)	May-Sept	1350	74	3015	1816
		May-July	1140	74	2494	1530
	PRICKLY PEAR CREEK					
0615	Clancy (near)	May-Sept	15.6	82	32.3	19.0
		May-July	13.3	82	25.1	16.2
	SHEEP CREEK					
0770	White Sul. Spgs. (near)	May-Sept	13.0	84	31.0	15.4
		May-July	11.1	84	26.4	13.2
	SUN RIVER					
0786	Gibson Dam (at)(17)	May-Sept	505	88	676	573
		May-July	460	88	606	522
	MISSOURI RIVER					
0908	Fort Benton (at)(18)	May-Sept	2100	73	4717	2861
		May-July	1730	73	3861	2367
	TWO MEDICINE CREEK					
0920	Browning (near)(19)	May-Sept	205	85		241
		May-July	194	85		229
	BADGER CREEK					
0925	Browning (near)	May-Sept	113	86		132
		May-July	96	86		112
	CUT BANK CREEK					
0990	Cut Bank (at)	May-Sept	90.0	74	124	121
		May-July	81.0	74	109	109
	MARIAS RIVER					
0995	Shelby (near)(20)	May-Sept	480	85	629	564
		May-July	448	85	584	530
	MISSOURI RIVER					
1095	Virgelle (at)(21)	May-Sept	2640	74	5489	3557
		May-July	2220	74	4547	2999
	JUDITH RIVER					
1100	Utica (near)	May-Sept	28.0	86	71.3	32.7
		May-July	25.9	86	65.6	30.2
	MISSOURI RIVER					
1150	Zortman (near)(21)	May-Sept	2900	75	6060	3885
		May-July	2430	75	5018	3254
	NORTH FORK MUSSELSHELL R.					
1155	Delpine (near)	May-Sept	3.8	76	8.2	5.0
		May-July	3.0	75	6.5	4.0
	SOUTH FORK MUSSELSHELL R.					
1185	Martinsdale (above)	May-Sept	35.0	82	64.6	42.8
		May-July	34.0	82	55.6	40.7

(16) Adjusted for storage in Hebgen and Ennis Lakes and Clark Canyon Reservoir.
(17) Adjusted for storage in Gibson Reservoir and diversions.
(18) Adjusted for storage in Canyon Ferry Reservoir.
(19) Adjusted for storage in Two Medicine Res. & diversions into Two Medicine Canal.
(20) Adjusted for storage in Two Medicine, Four Horns, Lake Frances & Swift Res.
(21) Adjusted for storage in Canyon Ferry and Tiber Reservoirs.

*PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY FORECASTS

AS OF MAY 1, 1968

No.	River and Reservoir Basin	Current Forecast		Previous Forecast		Average	Water-Year Runoff	
		Period	Runoff	Period	Runoff		Last Year*	Average
	MISSOURI RIVER:							
0545	Toston (4)(16)	May-Sept	1350		94		2819	2810
		May-July	1140		94		2400	1720
	PRICKLY PEAR CREEK:							
0615	Canyon (near)	May-Sept	7.6		80		32.5	34.0
		May-July	3.7		82		27.1	19.2
	SHORT CREEK:							
0770	Wolsey Res. Supp. (near)	May-Sept	13.0		84		31.0	15.4
		May-July	11.1		84		26.1	13.2
	SUN RIVER:							
0780	Gibson Dam (at)(17)	May-Sept	395		90		670	435
		May-July	280		94		610	298
	MISSOURI RIVER:							
0900	Fort Benton (at)(18)	May-Sept	2100		73		4310	2860
		May-July	1740		73		3940	2747
	TWO MEDICINE CREEK:							
0920	Browning (near)(19)	May-Sept	255		85			4.1
		May-July	145		85			2.9
	BADGER CREEK:							
0925	Browning (near)	May-Sept	11.5		84			1.0
		May-July	9.4		84			1.2
	CUT BANK RIVER:							
0990	Cut Bank (at)	May-Sept	91.0		74		124	121
		May-July	81.0		74		109	109
	MARIAS RIVER:							
0995	Shelby (near)(20)	May-Sept	480		84		571	574
		May-July	428		83		38.	520
	MISSOURI RIVER:							
1095	Virgelle (at)(21)	May-Sept	3540		71		5120	3127
		May-July	2720		74		4560	2669
	YELLOW RIVER:							
1100	Wibaux (near)	May-Sept	38.0		80		71.3	47.7
		May-July	32.0		83		63.0	37.7
	MISSOURI RIVER:							
1150	Sacajawea (near)(21)	May-Sept	4500		75		6000	4867
		May-July	4430		75		5710	3964
	NORTH FORK MUSSELSHELL R.:							
1155	Delphia (near)	May-Sept	4.8		74		8.1	7.3
		May-July	3.0		75		6.5	4.0
	SOUTH FORK MUSSELSHELL R.:							
1185	Martinsdale (above)	May-Sept	35.0		82		46.0	42.8
		May-July	34.0		83		35.0	40.7

(16) Adjusted for storage in Hebgen and Ennis Lakes and Clark Canyon Reservoir.
(17) Adjusted for storage in Hidden Lake Reservoir and diversions.
(18) Adjusted for storage in Gibson Dam Reservoir.
(19) Adjusted for storage in Two Medicine Res. & diversions into Two Medicine Creek.
(20) Adjusted for storage in Tiber, Pishkun, Four Horns, Lake Frances & Swift Res.
(21) Adjusted for storage in Canyon Ferry and Tiber Reservoirs.

*Preliminary data subject to revision by U.S. Geological Survey

WATER SUPPLY FORECASTS

AS OF MAY 1, 1966

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	MISSOURI RIVER					
1320	Ft. Peck Dam (below)(22)	May-Sept	2600	70	5197	3728
		May-July	2240	70	6147	3200
	MILK RIVER					
1350	Eastern Crossing (at)	May-Sept	185	90	231	206
	MISSOURI RIVER					
1770	Wolf Point (near)(22)	May-Sept	2720	69	6735	3942
		May-July	2330	69	5758	3380
	MISSOURI RIVER					
3300	Williston, N.D.(nr)(29)	May-Sept	6230	67	16400	9299
		May-July	5430	67	13850	8068
	SASKATCHEWAN RIVER BASIN					
	ST. MARY RIVER					
0175	Babb (near)(30)	May-Sept	435	93		469
		May-July	373	93		401

(22) Adjusted for storage in Canyon Ferry, Tiber and Fort Peck Reservoirs.
(29) Adjusted for storage in Canyon Ferry, Tiber, Fort Peck, Buffalo Bill, Boysen and Yellowtail Reservoirs.
(30) Adjusted for storage in Lake Sherburne.

*PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY FORECASTS

AS OF MAY 1, 1960

No.	River and forecast point	Forecast period	Forecast	Median	Median flow	Last year*	2-year
	MISSOURI RIVER						
1320	Ft. Peck Res. (below)(22)	May-Sept	2810	70	5477	1774	
		May-July	2210	70	4147	2200	
	MILK RIVER						
1350	Eastern Crossing (at)	May-Sept	185	90	231	336	
	MISSOURI RIVER						
1770	Wolf Point (near)(22)	May-Sept	2720	69	6734	7612	
		May-July	2130	69	5718	3380	
	MISSOURI RIVER						
1920	Williston, N.D.(on)(29)	May-Sept	6230	67	14610	9277	
		May-July	5610	67	13850	8068	

SASKATCHEWAN RIVER BASIN

	ST. MARY RIVER						
0175	Kobb (near)(30)	May-Sept	435	93		469	
		May-July	373	93		401	

(22) Adjusted for storage in Canyon Ferry, Tiber and Fort Peck Reservoirs.
(29) Adjusted for storage in Canyon Ferry, Tiber, Fort Peck, Buffalo Rib, Bowman and Yellowtail Reservoirs.
(30) Adjusted for storage in Lake Sherburne.

*Maximum and minimum if 5th, respectively.

WATER SUPPLY FORECASTS

AS OF MAY 1, 1966

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	YELLOWSTONE RIVER BASIN					
	YELLOWSTONE RIVER					
1915	Corwin Springs (at)	May-Sept	1700	95	2474	1792
		May-July	1410	95	1998	1487
	YELLOWSTONE RIVER					
1925	Livingston (near)	May-Sept	1810	90	2865	2019
		May-July	1490	90	2326	1662
	SHIELDS RIVER					
1935	Clyde Park (at)	May-Sept	74.0	90	132	82.1
		May-July	68.0	90	116	75.3
	BOULDER RIVER					
2000	Big Timber (at)	May-Sept	256	78	472	330
		May-July	240	78	415	309
	STILLWATER RIVER					
2050	Absarokee (near)(25)	May-Sept	425	80	642	531
		May-July	356	80	513	444
	CLARKS FORK RIVER					
2075	Chance (at)	May-Sept	480	86	736	560
		May-July	432	86	641	504
	CLARKS FORK RIVER					
2085	Edgar (at)	May-Sept	500	86	774	578
		May-July	435	86	649	507
	ROCK CREEK					
2095	Red Lodge (near)	May-Sept	81.0	80	138	101
		May-July	62.0	80	105	77.2
	YELLOWSTONE RIVER					
2145	Billings (at)	May-Sept	3000	82	5266	3675
		May-July	2550	82	4277	3124
	BIG HORN RIVER					
2870	St. Xavier (near)(26)	May-Sept	780	51	2923	1532
		May-July	725	51	2519	1422
	YELLOWSTONE RIVER					
3090	Miles City (at)(27)	May-Sept	3700	70	8308	5307
		May-July	3220	70	6876	4609
	YELLOWSTONE RIVER					
3295	Sidney (near)(27)	May-Sept	3400	65	9280	5245
		May-July	3000	65	7779	4625

(25) Adjusted for storage in Mystic Lake.
(26) Adjusted for storage in Buffalo Bill, Boysen, Bull Lake and Yellowtail Reservoirs.
(27) Adjusted for storage in Buffalo Bill, Boysen and Yellowtail Reservoirs.

*PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY FORECASTS

AS OF MAY 1, 1964

No.	River and forecast point	Forecast period	April-July	April	May
			This year	Average	Last year / Average
	YELLOWSTONE RIVER BASIN				
	YELLOWSTONE RIVER				
1915	Corwin Springs (as)	May-Sept	1700	95	2474 1702
		May-July	1410	95	1996 1480
	YELLOWSTONE RIVER				
1925	Livingston (mean)	May-Sept	1810	90	2895 2015
		May-July	1450	90	2364 1662
	WHITE RIVER				
1935	Clyde Park (as)	May-Sept	74.0	90	132 82.2
		May-July	68.0	90	116 75.5
	BOULDER RIVER				
2000	Big Timber (as)	May-Sept	255	78	417 320
		May-July	240	78	415 300
	STILLWATER RIVER				
2030	Absarokee (mean)(25)	May-Sept	225	80	542 321
		May-July	196	80	512 244
	CLARKS FORK RIVER				
2075	Cooke (as)	May-Sept	430	86	798 560
		May-July	422	86	641 504
	CLARKS FORK RIVER				
2085	Edgar (as)	May-Sept	200	86	776 576
		May-July	185	85	649 [illegible]
	ROCK CREEK				
2095	Red Lodge (mean)	May-Sept	41.0	80	149 121
		May-July	32.0	81	105 77.3
	YELLOWSTONE RIVER				
2145	Billings (as)	May-Sept	2000	82	3246 [illegible]
		May-July	1950	82	2377 [illegible]
	BIG HORN RIVER				
2270	Mr. Xavier (mean)(26)	May-Sept	780	81	1463 [illegible]
		May-July	725	81	1319 [illegible]
	YELLOWSTONE RIVER				
2300	Miles City (as)(27)	May-Sept	3700	70	8108 [illegible]
		May-July	3220	70	6976 [illegible]
	YELLOWSTONE RIVER				
2325	Sidney (mean)(27)	May-Sept	3400	61	9280 [illegible]
		May-July	3020	61	7770 [illegible]

(25) Adjusted for storage in Wyoming Lake.
(26) Adjusted for storage in Bighorn Lake, Boysen, Pilot Butte and Yellowtail Reservoirs.
(27) Adjusted for storage in Bighorn Lake, Boysen and Yellowtail Reservoirs.

SNOW SURVEY DATA

AS OF MAY 1, 1966

(inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
	COLUMBIA RIVER BASIN						
KOOTENAI RIVER							
15B11	Baree Creek	5500	5/2	77	39.4	46.2	49.1
15B16	Baree Midway	4600	5/2	52	24.8	-	-
15B15	Baree Trail	3800	5/2	0	0.0	0.0	-
14A04	Brush Creek	5000	4/27	19	7.2	10.2	10.7*
BC 10	Fernie	3500	4/29	1	0.3	3.2	2.8
BC 12A	Field	4200	4/28	0	0.0	0.0	0.6*
BC 11	Glacier	4100	4/27	72	31.6	22.6	25.9
14A11	Graves Creek	4300	4/28	31	12.8	16.9	-
BC 43	Gray Creek	5100	4/30	56	21.7	21.9	20.2
BC 33	Kicking Horse	5400	4/29	38	14.0	14.6	12.2
BC 20B	Kimberley	3800	5/1	0	0.0	0.0	1.2*
BC 32	Marble Canyon	5000	4/30	22	8.2	11.2	13.4
BC 10B	Morrissey Ridge	6100				28.8	-
BC 10A	New Fernie	4100				9.3	6.0*
15A01	Red Mountain	6000	4/29	47	19.6	21.9	20.9
BC 8A	Sinclair Pass	4500	4/30	7	1.6	0.0	2.2*
BC 20A	Sullivan Mine	5100	4/29	34	13.0	11.0	12.5
BC 41	Upper Elk River	4400	4/29	0	0.0	3.0	2.5*
14A07	Weasel Divide	5450	4/28	65	29.6	38.2	35.7*
FLATHEAD RIVER							
14B03	Bassoo Peak	5150	4/25	17	7.8	7.4	9.7*
13A11	Beaver Lake	5900	5/2	44	20.2	31.8	-
13B03	Big Creek	6750	4/27	91	39.6	59.8	50.5*
13A17	Camp Misery	6400	4/26	93	41.0	65.8	52.0*
13A02	Desert Mountain	5600	4/26	23	10.3	20.6	14.6
13B04	Fatty Creek	5500	4/27	45	19.0	26.1	22.5*
14A09	Griffin Creek Divide	5150	4/26	10	3.8	7.5	9.8*
13B12	Gunsight Lake	6300	4/29	85	41.6	50.8	-
14A03	Hell Roaring Divide	5770	4/28	58	29.4	37.5	31.5
13B13	Holbrook	4530	4/29	0	0.0	0.0	1.4*
14A05	Logan Creek	4300	4/27	0	0.0	1.6	3.4*
13A05	Marias Pass	5250	4/26	31	14.0	28.0	18.0
13A16	Mineral Creek	4000	4/30	24	9.4	17.5	-
13B07	North Fork Jocko	6330	4/28	79	36.2	55.0	48.0*
13B02	Spotted Bear Mountain	7000	4/29	19	9.2	14.6	12.4*
13B01	Trinkus Lake	6100	4/29	84	41.4	54.4	45.4*
13B11	Twin Creeks	3580	4/29	0	0.0	0.0	1.4*
13B05	Upper Holland Lake	7000	4/29	71	34.8	45.5	39.0*

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE

SNOW SURVEY DATA

AS OF MAY 1, 1966

STATE	NAME	ELEVATION	DATE OF SURVEY	SNOW WATER EQUIVALENT	PRECIPITATION	WATER EQUIVALENT	PRECIPITATION	WATER EQUIVALENT	PRECIPITATION

SNOW SURVEY DATA

AS OF MAY 1, 1966

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
CLARK FORK RIVER							
13C13	Black Pine	7100	4/27	33	10.8	20.2	11.8*
13C13	Black Pine Pillow	7100	4/27	SP	11.8	-	-
12B10	Copper Creek	5700	4/25	11	4.8	15.6	-
12B11	Cotter Mine	6250	4/25	28	11.8	22.8	-
13B10	Coyote Hill	4200	4/28	1	0.4	5.0	2.3
13C11	Fred Burr Pass	8000	4/28	59	20.9	41.3	32.5*
14C10	Heart Lake Trail	4800	4/26	35	14.0	16.6	-
15C01	Hoodoo Creek	5900	4/26	88	41.2	56.6	50.2*
13C04	Intergaard	6450	5/2	6	2.0	8.4	-
15B02	Lookout	5250	4/29	66	30.0	36.6	36.4
13C21	Lubrecht Forest No. 3	5450				3.4	3.6*
13C22	Lubrecht Forest No. 4	4650				0.0	0.6*
13C08	Lubrecht Forest No. 6	4040				0.0	0.1*
13C12	Red Lion	7100	4/28	35	11.6	26.2	19.6*
13C03	Skalkaho Summit	7260	4/27	52	19.5	38.4	26.7*
13C02	Slide Rock Mountain	7100	4/26	33	12.8	22.3	14.7*
13C18	Spring Gulch	6000	4/30	0	0.0	3.0	3.1*
13C07	Storm Lake	7780	4/28	36	11.2	20.8	17.0*
13C01	Stuart Mountain	7400	4/30	65	28.6	38.4	30.4*
14B01	TV Mountain	6800	5/1	41	17.6	23.2	20.3*
BITTERROOT RIVER							
13C16	Ambrose	6480	4/26	21	8.0	15.4	11.0*
13D02	Gibbons Pass	7100	4/28	30	12.8	29.2	23.1
14C05	Lolo Pass	5230	4/27	44	20.3	34.8	31.8*
14C07	Lost Horse	5940	4/29	47	19.0	37.3	34.1*
14D02	Nez Perce Camp	5680	4/27	17	4.2	15.7	9.7
14D01	Nez Perce Pass	6570	4/27	24	6.0	19.8	13.3
13D22	Saddle Mountain	7940	4/28	47	18.4	33.3	-
14C04	Savage Pass	6600	4/26	49	21.2	-	-
14C08	Twin Lakes	6510	4/29	68	29.4	52.2	46.6*

SP - Snow Pillow Observation - Water Content only.

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE

SNOW SURVEY DATA

AS OF MAY 1, 1968

No.	Snow Course Name	Elevation	Date of Survey	Snow Depth	Water Content	Last Year	Average
	CLARK FORK RIVER						
12C13	Black Pine	7400	4/27	75	10.8	20.2	12.8*
12C15	Black Pine Ridge	7700	4/27	87	11.5	-	-
12C10	Company Creek	5700	4/25	15	4.8	15.6	-
12C11	Quartz Ridge	6100	4/25	36	11.8	22.8	-
12C04	Cherry Pick	4300	4/18	1	0.4	5.0	2.7
12C12	Fred Burr Park	8100	4/28	39	20.9	41.3	32.3*
14C18	Mount Lake Trail	4800	4/26	55	14.0	16.6	-
15C02	Moccasin Creek	3900	4/26	82	41.2	46.6	50.2*
12C04	Tenderfoot	5400	4/1	4	2.0	8.6	-
12C02	Lookout	8200	4/29	66	20.0	36.6	36.4
12C21	Lookout Forest No. 2	5800				3.4	1.8*
12C22	Lookout Forest No. 4	6850				0.0	0.0*
12C08	Lookout Forest No. 6	4010				0.5	2.2*
12C12	Red Cloud	7100	4/28	55	12.5	26.2	14.0*
12C03	Stanley Summit	7400	4/27	42	10.3	32.1	26.2*
12C02	Silver Creek Mountain	7100	4/26	23	12.8	22.3	14.7*
12C12	Sixteen Creek	6700	4/30	0	0.0	3.2	4.1*
12C07	Stacker Lake	7100	4/29	35	11.5	27.8	17.0*
12C01	Stewart Mountain	7200	4/30	65	22.5	32.4	30.4*
14A01	TV Mountain	5800	4/1	41	17.6	23.2	20.3*
	BITTERROOT RIVER						
12C16	Anaconda	6400	4/26	21	6.0	15.4	11.0*
12C02	Gibbons Pass	7700	4/25	30	12.8	29.2	22.2
14C05	Lolo Pass	5700	4/27	44	20.2	24.8	31.8*
14C07	Fish Horse	5400	4/26	47	10.0	27.2	24.1*
14C02	Sal Mountain Camp	5000	4/27	17	4.2	13.7	9.0
14C03	Big Snow Flow	6700	4/29	24	6.0	19.8	13.3
12C02	Lubrecht Mountain	7400	4/28	47	18.4	22.3	-
14C04	Seeley Park	4000	4/26	29	11.2	-	-
14C02	Twin Lakes	6400	4/25	22	27.4	32.2	45.4*

SP - Snow Pillow Observation - Water Content only.

NOTE: All averages based on 1941-1960 (as year permit). "Average Average"

SNOW SURVEY DATA

AS OF MAY 1, 1966

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
	MISSOURI RIVER BASIN						
BEAVERHEAD RIVER							
13B10	Bloody Dick	7600	4/25	13	4.6	15.2	-
13E22	Dad Creek Lake	8400	5/2	35	12.0	23.2	-
13D15	Elk Horn Springs	7800	4/28	16	4.9	15.1	8.4*
13D09	Gold Stone	8100	4/25	28	9.9	22.7	-
11E04	Lakeview Canyon	6930	4/27	26	9.7	19.2	9.5*
11E03	Lakeview Ridge	7400	4/27	21	7.6	16.7	7.3*
12E01	White Pine Ridge	8850	5/2	0	0.0	7.0	-
RUBY RIVER							
11D08	Clover Meadow	8600	5/2	45	17.0	24.0	-
12E07	Divide	7900	5/2	18	6.4	14.7	-
12E06	Notch	8500	5/2	43	16.6	21.2	-
BIG HOLE RIVER							
13D20	Abundance Lake	8800	5/2	38	14.8	32.2	-
13D19	Darkhorse Lake	8600	5/2	47	19.2	41.0	-
13D21	Foolhen	8280	5/2	30	11.7	27.3	-
13D08	Jahnke Creek	7340	4/25	6	1.8	10.0	-
JEFFERSON RIVER							
12C07	Berry Meadow	7300	4/28	17	5.1	9.1	6.7*
12C09	Copper Mountain	7700	5/2	18	5.9	-	-
12D01	Pipestone Pass	7200	4/26	9	1.9	4.9	4.4*
MADISON RIVER							
11E09	Big Springs	6500	4/29	21	9.2	21.0	-
11D07	Call Road	8050	5/2	32	11.1	15.9	-
11D12	Four Mile	6900	4/27	16	4.3	10.6	-
11E25	Freezeout Lake	7200	5/3	2	0.8	5.2	-
11E26	Freezeout Mountain	8250	5/3	31	12.2	24.4	-
11E05	Hebgen Dam	6550	4/29	3	1.0	10.8	4.8
11E10	Island Park	6315	4/29	9	2.9	11.9	-
11D05	Jack Creek	7500	4/26	3	0.4	-	-
11E22	Lake Creek	6100	5/3	0	0.0	1.3	-
11D11	Lower Twin	7900	4/27	56	19.4	31.2	-
11E23	Meridian Creek	7000	5/3	12	3.7	10.0	-
11D03	North Meadow	7500	4/27	30	8.4	-	-

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE

SNOW SURVEY DATA

AS OF JULY 1, 1965

SNOW COURSE			COURSE DATA			PAST RECORD	
No.	NAME	ELEVATION	DATE OF SURVEY	SNOW COURSE WATER EQUIVALENT	WATER SUPPLY INDEX	PAST YEAR	JULY AVGE.
	YELLOWSTONE RIVER BASIN						
	BEAVERHEAD RIVER						
12C10	Blindy Gap	7600	4/22	13	5.6	15.2	-
12C22	Red Rock Lake	8400	5/2	7	12.0	23.2	-
12G15	Big Horn Springs	7300	4/26	16	5.9	15.1	8.4*
12G20	Gold Stand	8100	4/25	28	9.9	24.7	-
12H02	Lakeview Canyon	6100	4/27	26	8.7	19.2	9.9*
12H10	Lakeview Ridge	7100	4/27	21	7.6	16.7	7.9*
12H20	Wells Fine Ridge	8450	5/2	0	0.0	7.0	-
	BIG HOLE RIVER						
11H08	Clover Meadow	8400	5/2	45	17.0	24.0	-
12E07	Birdna	7000	5/2	18	6.4	14.7	-
12E06	Moiek	8500	5/2	43	16.6	21.2	-
	BIG HORN RIVER						
12D20	Bighorn Lake	8400	4/2	34	14.8	32.2	-
12D19	Tarkington Lake	8400	5/2	47	19.2	41.0	-
12C21	Cowlbin	8300	5/2	30	12.7	27.3	-
12D05	Jackie Creek	7100	4/25	6	1.8	10.0	-
	BITTERROOT RIVER						
12C07	Berry Meadow	5400	4/28	17	5.1	9.3	6.7*
12C09	Copper Mountain	7000	5/2	18	5.0	-	-
12D01	Flypaxtone Pass	7000	4/25	9	1.9	4.9	4.4*
	MADISON RIVER						
11H09	Big Springs	6100	4/29	21	9.2	21.0	-
11H07	Cali Head	6400	4/3	32	11.1	18.9	-
11H12	Four Mile	6000	4/27	16	4.3	10.0	-
11H24	Freemont Lake	7700	5/1	1	0.8	5.2	-
11H26	Freemont Mountain	8700	5/3	31	12.1	24.4	-
11H30	Hebgen Dam	6450	4/29	5	1.0	10.8	4.8
11H10	Island Park	6300	4/29	9	2.9	11.9	-
11G05	Jack Creek	7400	4/26	3	0.4	-	-
11H22	Lake Creek	6100	5/3	0	0.0	1.3	-
11H11	Lower Twin	7000	4/27	45	19.4	31.2	-
11H27	Meriadian Creek	7000	5/3	12	3.7	10.0	-
11H03	North Meadow	7500	4/27	3	2.4	-	-

NOTE: ALL AVERAGES BASED ON 1949-1963 (IF SITE PERMITS). *BASED ON AVERAGE

SNOW SURVEY DATA

AS OF MAY 1, 1966

(inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
MADISON RIVER (continued)							
10E02	Norris Basin	7500	5/3	0	0.0	10.1	5.5*
11E21	Potomageton Park	7150	4/27	14	4.9	17.4	-
11E20	Sentinel Creek	8300	4/27	52	18.3	37.2	-
11E24	Tepee Creek	8000	5/3	37	11.5	21.2	-
11E27	Upper West Fork	8750	5/2	30	11.6	-	-
11E08	Valley View	6500	4/29	20	7.8	18.6	-
11E07	West Yellowstone	6700	4/30	4	1.4	11.5	5.6
GALLATIN RIVER							
10D14	Arch Falls	7350	4/30	34	11.6	16.8	12.0*
11D09	Bear Basin	8150	4/28	47	17.2	27.9	22.6*
10D15	Bridger Bowl Pillow	7250	4/30	SP	24.8	34.0	-
10D04	Devil's Slide	8100	4/30	63	22.2	32.0	24.9
10D03	Hood Meadow	6600	4/30	14	5.2	10.0	6.6
10D13	Lick Creek Pillow	6860	4/27	SP	6.8	9.4	-
11D10	Little Park	7400	4/28	38	13.0	19.0	16.0*
10D16	Shower Falls Pillow	8100	4/30	SP	25.4	-	-
11E06	Twenty-One Mile	7150	4/30	33	12.8	24.8	14.9
MISSOURI RIVER (Main Stem)							
11C01	Boulder Mountain	7950	4/26	57	18.0	23.4	16.1*
12C05	Chessman Reservoir	6200	4/27	9	0.6	2.2	2.9
10C09	Deadman Creek	6450	4/28	16	5.6	-	-
10C07	Elk Peak	8000	4/27	51	17.2	26.8	16.5*
10C02	Grasshopper	7000	4/27	12	4.2	7.4	-
10C01	Kings Hill	7500	4/28	42	12.4	18.4	13.8
12C01	Stemple Pass	6600	4/27	25	7.5	14.2	9.8
12C02	Ten Mile Lower	6600	4/27	8	1.8	6.8	4.1
12C03	Ten Mile Middle	6800	4/26	26	7.7	15.0	9.9
12C04	Ten Mile Upper	8000	4/26	32	10.1	21.0	14.2
SUN-TETON-MARIAS RIVERS							
13A15	Badger Pass	6900	5/2	75	37.1	49.8	-
12B06	Cabin Creek	5200	5/2	0	0.0	0.0	-
12B09	Five-Bull	5700	4/29	4	0.5	9.0	-
12A01	Freight Creek	6000	4/28	33	11.8	23.6	-
12B07	Goat Mountain	7000	4/30	29	9.2	15.9	10.3*
12B01	West Fork	6000	4/28	21	7.4	23.2	-
12B04	Wrong Creek	5700	5/2	17	9.1	14.1	-
12B03	Wrong Ridge	6800	5/2	37	18.3	30.9	-

SP - Snow Pillow Observation - Water Content only.

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE

SNOW SURVEY DATA

AS OF MAY 1, 1966

Basin Number				Current Data			Past Record	
No.	Name	Elevation	Date of Survey	Snow Depth	Water Content		Water Content	
							Last Year	Average
MADISON RIVER (continued)								
10600	Mortis Ranch	7500	5/3	0	0.0		10.1	5.5*
11621	Potosi-Pass Trap	7150	4/27	14	4.9		17.4	-
11620	Sheltons Creek	8300	4/27	52	18.1		37.2	-
11621	Tepee Creek	8000	5/3	37	11.5		21.5	-
11622	Upper West Fork	8750	5/1	30	11.0		-	-
11608	Watkins View	6500	4/29	30	7.8		18.0	-
11607	West Yellowstone	6700	4/30	4	1.4		11.5	5.6
MALAD(ID) RIVER								
10014	Arco Hills	7350	4/30	24	11.6		16.8	12.0*
11004	Bear Valley	8150	4/28	47	17.2		27.9	22.6*
10043	Antelope Creek Station	7250	4/30	87	24.8		34.0	-
10004	Devil Creek	6100	4/30	63	24.2		32.0	24.4
10003	Iona Meadow	6600	4/30	14	5.2		10.0	6.6
10013	Lower Creek Station	6550	4/27	87	6.8		9.4	-
11010	Mattie Park	7200	4/28	38	13.0		19.0	16.1*
10010	Monroe Creek Station	8100	4/30	82	25.4		-	-
11006	Tenmile-Gem Mills	7450	4/30	34	12.8		21.8	16.7
MISSOURI RIVER (Main Stem)								
11001	Brooklyn Meadows	7050	4/25	37	18.0		21.4	15.1*
12005	Chestnut Gulch	6500	4/27	9	0.6		2.2	2.9
10009	Deadman Creek	6400	4/28	16	5.6		-	-
10007	Elk Park	8000	4/27	34	12.2		25.8	15.5*
10002	Stevens Gulch	7000	4/27	12	4.2		7.4	-
10001	Stuart Mill	7800	4/28	42	12.4		18.4	13.8
12002	Stemple Pass	8400	4/27	22	7.8		14.2	9.8
12001	Tom Miles Lower	6000	4/27	8	1.8		6.8	4.1
12003	Tom Miles Middle	6800	4/25	25	9.7		15.0	9.9
12004	Tom Miles Upper	8000	4/25	32	10.1		21.0	14.2
RUBY-JEFFERSON RIVERS								
13415	Beaver Pass	8400	5/2	73	27.3		40.8	-
12806	Cedar Creek	4200	5/2	0	0.0		0.0	-
12809	Pine Bluff	5700	4/27	4	0.5		9.0	-
12401	Pringle Creek	6300	4/28	37	11.8		23.6	-
12807	Root Mountain	7800	4/30	20	9.2		15.9	10.2*
12801	West Pass	6800	4/28	21	7.4		23.2	-
12804	Wrong Creek	5700	4/2	17	9.2		14.1	-
12803	Wrong Ridge	6800	5/2	37	12.3		30.9	-

SP - Snow Falling Observation - Water Content only.

NOTE: All elevations have an zero-zero (0) year ending. "Adjusted average"

SNOW SURVEY DATA

AS OF MAY 1, 1966

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
JUDITH RIVER							
9C02	Avalanche	7100	4/29	64	21.7	-	-
9C01	Crystal Lake	6100	4/29	27	9.2	-	-
9C03	Rock Creek	5600	4/29	15	5.1	-	-
10C06	Spur Park	8000	4/28	60	20.4	29.7	20.0*
ST. MARY RIVER							
13A18	Hudson Bay Divide	5800	5/2	41	17.5	22.9	-
13A03	Iceberg Lake No. 3	5600	5/4	52	28.3	34.8	29.6
13A14	Josephine Lower No. 9	4900	5/3	40	18.9	19.6	17.9*
13A07	Mount Allen No. 7	5700	5/3	97	47.8	45.6	49.2
13A06	Piegan Pass No. 6	5500	5/3	80	42.6	43.3	41.3
13A08	Ptarmigan No. 8	5800	5/4	70	36.1	46.8	40.3
UPPER YELLOWSTONE RIVER							
10C05	Bald Ridge	7500	4/29	28	10.0	18.0	-
9D01	Camp Senia	7890	5/2	25	7.6	10.8	9.3*
10E03	Canyon	7750	4/29	38	12.8	24.7	13.5*
9D07	Cooke Guard Station	8150	4/29	49	15.5	-	-
10E06	East Entrance	7000	5/3	0	0.0	2.7	3.6*
9D06	Fisher Creek	9100	4/29	95	36.5	-	-
9D05	Grizzly Peak	8400	4/29	71	21.6	23.8	18.2*
10D06	Independence	8000	4/25	33	12.9	27.0	17.7*
10E04	Lake Camp	7850	4/29	22	6.0	13.4	7.2*
9E01	Lodgepole	8200	4/28	25	7.6	12.1	10.7*
10E01	Lupine Creek	7300	5/3	10	3.4	8.2	7.7*
10D12	Monument Peak	9000	4/25	56	20.9	37.3	26.4*
10D07	Northeast Entrance	7400	5/2	8	3.2	10.2	6.2
10C03	Porcupine R. S.	6500	4/29	17	5.2	11.5	-
10D10	Sacajawea	6550	4/30	29	11.4	17.2	10.8*
10C08	South Fork Shields	8100	4/29	68	26.3	36.4	-
10E05	Sylvan Pass	7100	5/2	25	8.0	15.2	10.6*
9D04	Timberline Creek	8850	5/2	49	16.9	25.2	16.7*

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE

SNOW SURVEY DATA

AS OF MAY 1, 1966

Snow Course			Current Data			Past Record		
No.	Name	Elevation	Date of Survey	Snow Depth	Water Content	Water Content	Last Year	Average

LEWIS RIVER

9C05	Avalanche	7100	4/29	64	21.7	-	-	
9C01	Grayrock Lake	6100	4/29	27	9.2	-	-	
9C07	Black Creek	5800	4/29	15	5.1	-	-	
10C06	Spur Park	5500	4/28	60	20.4	29.7	20.0*	

ST. MARY RIVER

13A18	Waterton Dry Divide	7500	5/2	41	17.5	22.9	-	
13A07	Waterton Lake No. 3	5600	5/4	58	26.3	34.6	29.6	
13A14	Waterton Lower	5700	5/3	40	14.9	19.6	17.9*	
13A07	Mount Allan No. 7	5500	5/3	37	17.1	15.4	19.2	
13A06	Flathead Pass No. 6	5000	5/3	50	12.6	13.3	13.3	
13A08	Waterton No. 8	5800	5/4	70	36.1	40.8	40.1	

UPPER SASKATCHEWAN RIVER

10C02	Bald Ridge	7400	4/29	28	10.0	12.0	-	
9D01	Cow Trail	7800	5/2	25	7.6	10.8	9.3*	
10C03	Cardyn	7100	4/29	34	12.8	16.7	13.6*	
9D07	Cline River Station	8300	4/29	49	13.5	-	-	
10C05	Mount Bourgeau	7000	5/3	0	0.0	2.7	3.4*	
9D06	Flatbow Creek	9100	4/29	95	36.3	-	-	
9D05	Saskatchewan Pass	8400	4/29	71	27.6	23.4	18.2*	
10C06	Tonquin Valley	8000	4/28	19	12.9	27.0	17.7*	
10C04	Lake Louise	7800	4/29	22	8.0	13.4	7.4*	
9D01	Lodgepole	8300	4/28	25	9.4	12.1	10.3*	
10C01	Tairpine Creek	7700	5/3	40	3.4	8.2	7.7*	
10D12	Mount Fryatt	6000	4/29	56	20.9	27.3	20.4*	
10D07	Athabasca Glacier	7100	5/3	8	3.2	10.7	8.2	
10D03	Sunwapta R. S.	6900	4/29	17	3.8	11.3	-	
10D10	Clear Water	6500	4/29	29	11.4	17.2	10.8*	
10C08	South Fork Athabasca	8100	4/29	68	26.3	34.4	-	
10E05	Sylvan Pass	7100	5/2	25	8.8	13.2	16.8*	
9D04	Timberline Creek	8800	5/2	49	16.9	23.2	16.7*	

NOTE: ALL ELEVATIONS GIVEN ON 1948-1952 DA VEAN (FEET). *ESTIMATED AMOUNT.

SOIL MOISTURE DATA

AS OF MAY 1, 1966

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
			COLUMBIA RIVER BASIN					
Kootenai								
15B15M	Baree Trail	3800	48	7.5			6.7	-
14A10M	Murphy Lake R.S.	3000	48	22.6	5/1	21.4	23.0	-
15A02M	Raven R.S.	3050	48	23.0			22.0	-
Flathead								
13A02M	Desert Mountain	5600	54	8.4	4/26	9.6	9.6	8.3
13A05M	Marias Pass	5250	54	6.5			6.4	6.0
Clark Fork								
13C13M	Black Pine	7100	48	10.0	4/27	5.5	-	-
13C15M	Georgetown Lake	6450	48	9.0	4/28	7.2	5.1	5.5
13B19M	Seeley Lake R.S.	4030	48	11.9	5/2	11.6	12.0	-
13C03M	Skalkaho Summit	7260	48	10.8	4/27	10.4	9.7	-
Bitterroot								
13D18M	Gibbons Pass	7100	48	7.1	4/28	6.2	7.2	6.8
14C05M	Lolo Pass	5250	48	10.6	4/29	7.4	9.4	-
			MISSOURI RIVER BASIN					
Beaverhead								
11E13M	Lakeview	6700	48	15.3	5/2	9.8	16.5	15.3
Madison								
10D04M	Red Bluff	4800	40	4.7	5/1	2.3	2.6	2.6
Gallatin								
10D15M	Bridger Bowl	7250	48	15.8	4/30	16.4	-	-
11D02M	College Site	4856	54	14.5	4/29	14.8	13.2	12.3
10D13M	Lick Creek	6860	48	18.8	4/30	19.0	-	-
11E06M	Twenty-One Mile	7150	48	10.0	4/28	3.4	3.6	-
Missouri Main Stem								
10C01M	Kings Hill	7420	48	11.8	4/28	8.8	7.8	-
12C08M	Stemple Pass	6350	48	5.9	4/29	5.4	5.4	-
Yellowstone								
10D11M	Battle Ridge	6020	48	17.6	4/29	15.2	16.6	15.4
10D07M	Northeast Entrance	7350	48	9.4			7.4	7.7

**AVERAGE FOR PERIOD OF RECORD

SOIL MOISTURE DATA

AS OF MAY 1, 1966

(Inches)

Soil Moisture Station				Soil Moisture		Current Data		Past Records	
No.	Name	Elevation	Depth	Field Capacity	Date of Sampling	Soil Moisture	Last Year	**Average
	COLUMBIA RIVER BASIN								
Coastal									
1BR03M	Bacon Trail	1800	48	7.5			6.7	-
1A01CM	Murphy Lake R.S.	3000	48	22.6	5/1	21.4	23.0	-
1S02CM	Raven R.S.	3050	48	23.0			22.0	-
Cascade									
1J02CM	Jump-off Mountain	5600	54	8.4	4/26	9.6	9.6	8.3
1J01CM	Marion Pass	5250	54	6.5			6.4	6.0
Clark Fork									
1J01CM	Black Pine	7100	48	10.0	4/27	5.5	-	-
1K01CM	Montgomery Lake	6430	48	9.0	4/28	7.2	9.1	5.8
1K02CM	Seeley Lake R.S.	4050	48	13.9	5/2	11.6	12.0	-
1K03CM	Swaiatsie Summit	7240	48	10.8	4/27	10.4	9.7	-
Bitterroot									
1L01CM	Gibbons Pass	7100	48	7.1	4/28	6.2	7.2	6.8
1L02CM	Lolo Pass	5150	48	10.6	4/29	7.4	9.4	-
MISSOURI RIVER BASIN									
Madison									
1L01CM	Lakeview	8300	48	15.3	5/2	9.8	10.3	15.3
Gallatin									
1D02CM	Red Bluff	4300	40	4.7	5/3	2.3	2.4	2.6
Gallatin									
1D01CM	Bridger Bowl	7250	48	15.8	4/30	16.4	-	-
1J02CM	Fairings Site	4250	54	24.5	4/29	14.8	15.2	12.5
1D03CM	Lick Creek	8800	48	18.8	4/30	19.0	-	-
1J03CM	Tweedsmuir Site	7150	48	10.0	4/28	4.1	4.6	-
Missouri Main Stem									
1C01CM	Lodge Grass	4250	48	11.8	4/28	8.8	7.8	-
1E02CM	Simms Pass	6150	48	7.9	4/29	5.4	5.4	-
Yellowstone									
1C01CM	Bates Ridge	6050	48	17.4	4/29	13.2	16.6	15.4
1D02CM	Fortunes Entrance	7250	48	9.4			7.4	7.7

**Average for period of record.

RESERVOIR STORAGE DATA

AS OF APRIL 30, 1966

(1000 Acre Feet)

BASIN	RESERVOIR	USEABLE CAPACITY	USEABLE STORAGE THIS YEAR	USEABLE STORAGE LAST YEAR	USEABLE STORAGE AVERAGE
COLUMBIA RIVER BASIN					
Flathead	Hungry Horse	3,428.0	2,437.0	1,564.0	2,097.0**
	Flathead Lake	1,791.0	818.5	1,132.0	968.0
	Camas (Sum of 4)	45.2	35.4	29.7	38.1
	Mission Valley (Sum of 8)	100.3	71.8	51.0	45.1
Clark Fork	Georgetown Lake	31.0	21.6	22.0	21.2
	Noxon Rapids	334.6		170.1	-
Bitterroot	Como	34.9		24.5	17.9
	Painted Rocks	31.7	20.5	-	22.0**
MISSOURI RIVER BASIN					
Beaverhead	Clark Canyon	328.9	158.1	108.4	-
	Lima	84.0	61.8	77.3	48.3
Ruby	Ruby	38.8	36.9	-	31.7**
Madison	Hebgen Lake	377.5	266.8	198.8	174.8
	Ennis Lake	41.0	39.0	25.0	34.9
Gallatin	Middle Creek	8.0	3.3	4.1	4.6**
Missouri	Canyon Ferry	2,043.0	1,478.0	1,589.0	1,577.4**
	Hauser & Helena	61.9	62.4	58.4	49.9
	Lake Helena	10.4	10.7	9.2	6.6
	Holter Lake	81.9	78.1	69.0	61.8
	Smith River	10.7	10.8	11.4	8.1**
	Ackley Lake	5.8		-	3.6
	Durand	7.0	7.0	7.0	5.9
	Martinsdale	23.1	16.7	10.6	10.6
	Deadman's Basin	72.2	66.6	59.2	45.1**
	Fort Peck	19,410.0	16,700.0	15,950.0	11,128.6
Sun	Gibson	105.0	74.5	58.8	65.7
	Willow Creek	32.3	26.6	19.5	23.4
	Pishkun	32.0	24.7	16.8	22.5
Marias	Lower Two Medicine		-	-	1.4
	Four Horns	19.2		-	10.9
	Swift		-	-	26.7
	Lake Frances	112.0	98.9	-	96.0
	Tiber	1,347.0	707.9	836.6	656.3**
Milk	Fresno	127.2	128.1	134.9	108.1
	Nelson	66.8	58.9	40.3	39.8
	Lake Sherburne	66.1	25.9	29.1	24.8
Yellowstone	Mystic Lake	20.8	2.0	1.6	2.8
	Tongue River	68.0		-	20.0
	Cooney	27.5	22.6	11.2	15.0**
Big Horn	Boysen	700.3	330.2	231.6	156.9
	Buffalo Bill	373.1	238.0	117.3	135.2
	Bull Lake	151.7	84.3	44.5	51.5
	Yellowtail	1,409.0	363.3	-	-

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). **AVERAGE FOR PERIOD OF RECORD

RESERVOIR STORAGE DATA

AS OF APRIL 30, 1964

(1000 Acre Feet)

BASIN	RESERVOIR	USABLE CAPACITY	USABLE STORAGE: THIS YEAR	USABLE STORAGE: LAST YEAR	USABLE STORAGE: AVERAGE
COLUMBIA RIVER BASIN					
Flathead	Hungry Horse	3,424.0	2,437.0	1,354.0	2,097.0**
	Flathead Lake	1,791.0	818.5	1,132.0	568.0
	Swan (Site of 4)	45.2	32.4	27.7	38.1
	Milesion Valley (Site of 8)	100.3	72.8	31.0	45.1
Clark Fork	Georgetown Lake	31.0	21.4	22.0	21.2
	Noxon Rapids	134.6		170.1	--
Bitterroot	Como	34.9		24.5	17.9
	Painted Rocks	31.7	30.5	-	22.0**
MISSOURI RIVER BASIN					
Beaverhead	Clark Canyon	324.9	158.1	108.4	-
	Lima	84.0	61.8	77.5	48.3
Ruby	Ruby	36.8	34.9	-	31.7**
Madison	Hebgen Lake	374.5	254.8	198.8	172.8
	Earth Lake	42.0	39.0	32.0	34.9
Gallatin	Middle Creek	8.0	3.5	4.1	4.0**
Missouri	Canyon Ferry	2,042.0	1,476.0	1,359.0	1,377.4**
	Hauser & Holmes	61.9	52.4	34.4	49.9
	Lake Thelma	10.4	10.7	9.3	9.5
	Holter Lake	81.9	78.1	69.0	62.8
	Smith River	10.7	10.8	11.4	8.1**
	Ackley Lake	5.8	-	-	3.6
	Gibson	7.0	7.0	7.0	5.9
	Martinsdale	17.1	16.7	10.5	10.6
	Deadman's Basin	73.5	66.6	39.2	45.1**
	Fort Peck	19,410.0	10,700.0	15,970.0	11,128.6
Sun	Gibson	109.0	74.5	38.8	63.7
	Willow Creek	32.3	26.8	19.5	23.4
	Pishkun	32.0	24.7	16.8	22.5
Marias	Tiber Two Medicine		-	-	1.4
	Freezer Burns	10.2		-	10.9
	Gerald		-	-	26.7
	Lake Frances	112.0	62.9	-	96.0
	Tiber	1,428.0	727.9	834.4	856.1**
MILK	Fresno	127.2	124.1	124.4	108.2
	Nelson	56.4	52.9	40.3	39.8
	Lake Sherburne	85.1	25.9	29.1	24.8
Yellowstone	Nelson Lake	20.8	2.0	1.6	2.8
	Tongue River	68.0	-	-	20.0
	Cooney	27.5	22.4	11.2	18.0**
Big Horn	Bighorn	700.3	330.2	271.4	156.9
	Buffalo Bill	373.1	238.0	127.3	135.2
	Bull Lake	121.7	24.2	44.5	31.5
	Yellowtail	1,109.0	323.3	-	-

Agencies Cooperating in Collecting Data Contained in this Bulletin

U. S. Forest Service
Region 1, Missoula, Montana

U. S. Geological Survey
Helena, Montana

U. S. Army Corps of Engineers
Portland, Oregon
Seattle, Washington
Omaha, Nebraska

U. S. Indian Irrigation Service
St. Ignatius, Montana

U. S. Weather Bureau
Helena, Montana

U. S. Bureau of Sports Fisheries and Wildlife
Red Rock Lakes Refuge
Monida, Montana

U. S. Bureau of Reclamation
Billings, Montana
Boise, Idaho

U. S. Soil Conservation Service
Montana, Wyoming, Idaho

Soil and Water Conservation Districts
Montana Counties

U. S. Bonneville Power Administration
Portland, Oregon

U. S. National Park Service
Yellowstone National Park
Glacier National Park

Montana Power Company
Butte, Montana

State Water Conservation Board
Helena, Montana

North Montana Branch Station
Agricultural Experiment Station
Havre, Montana

Montana State University
Agricultural Experiment Station
Bozeman, Montana

University of Montana
School of Forestry
Missoula, Montana

Johnson Flying Service, Inc.
Missoula, Montana

Water Rights Branch, Dept. of Lands and Forests
Victoria, British Columbia

Department of Northern Affairs and National Resources
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UNITED STATES DEPARTMENT OF AGRICULTURE
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